



# A STUDY OF WOMEN DAIRY COOPERATIVES

BY

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*for the award of the Degree of*

**DOCTOR OF PHILOSOPHY**

**IN**

**HOME SCIENCE (EXTENSION EDUCATION)**

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

Dedicated

to

My Father

Late Sri T. LOHIDAS, M.S.(USA)

OUR LOVED ONES  
ONLY GO AWAY  
INTO THE DAWN  
OF A BRIGHTER DAY

## ***CERTIFICATE***

This is to certify that the Thesis entitled "*A Study of Women Dairy Cooperatives*" submitted in fulfilment of the requirements for the degree of Ph.D. in Home Science (Extension Education) by *Ms. T. VENKATA PADMAVATI* is a good record of research work done by her during the period of study under my supervision and that this thesis has not previously formed the basis for the award of any Degree or Diploma or Associateship or Fellowship or other similar title.

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## ***FORMAT***

*In the preparation of Thesis the specifications and recommendations of the style format in the Thesis composition made by American Psychological Association Publication Manual (1975), and the Thesis and Assignment Writing, Anderson (1989) were incorporated. Format of References given in the Indian Journal of Social Work was adopted.*

## ABBREVIATIONS

APDDCFL	Andhra Pradesh Dairy Development Cooperative Federation Limited
AWMPCS	All Women Milk Producers' Co-operative Societies
BC	Backward Castes
DIC	District Industries Centre
DPAP	Drought Prone Area Programme
DRDA	District Rural Development Authority
IADA	Intensive Area Development Approach
IRDP	Integrated Rural Development Programme
LMC	Lower Middle Class
MC	Middle Class
MFAL	Marginal Farmers and Landless Agricultural Labourers Programme
SC	Scheduled Castes
SFDA	Small Farmers Development Agency
ST	Scheduled Tribes
Rs.	Rupees (Indian Currency) – Rs 35.50 equivalent to 1 U.S. Dollar
TRYSEM	Training of Rural Youth for Self-Employment
UMC	Upper Middle Class

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# *CHAPTER 1*

*INTRODUCTION*

## ***Backdrop***

In a planned economy pledged to the values of socialism and democracy, cooperation becomes progressively the principal basis of organisation in many branches of economic life, notably in agriculture, dairy, small industry and processing, marketing, distribution and supplies. The Socialist Pattern of Society implies the creation of large number of decentralized units in agriculture, industry and the services. Cooperation has the merit of combining freedom and opportunity for the small man with benefits of large scale management and organisation as well as goodwill and support from the community. Thus, a rapidly growing cooperative sector with special emphasis on the needs of the peasant, the worker, and the consumer becomes vital factor for social stability, for expansion of employment opportunities and for rapid economic development.

The main objective of planned development is to ensure improvement of economic conditions of a majority of our rural people (See Table I : P17). The bulk of our rural population depends for livelihood on agriculture and farm operations. In order to reduce pressure on the land and agriculture it is imperative to bring diversification by promoting livestock development. The main thrust of livestock development programme, in particular dairy development, is to improve the economic status of the weaker sections of the society such as small farmers, marginal farmers, landless agricultural labourers, Scheduled Tribes, while at the same time, obtain significant increase in production.

## ***Five Year Plans and Dairy Development***

The National Policy for the development of weaker sections among the farm population directed large scale adoption of mixed farming by the small and marginal

farmers Several studies have revealed that the small farmers can derive 22 to 60 per cent of their total income from livestock and income adopting mixed farming can be as high as 61 per cent (Five Year Plan, Vol 2, Andhra Pradesh 1978-83) A rapid expansion of rearing of improved milch cattle has, therefore, been accorded high priority to improve the rural economy in general and economic well-being of the weaker sections in particular

Dairy development in India has received a fillip after Independence The First Plan (1951-56) provided for 27 dairy and milk supply schemes in the State sector The organisation of milk supply to Bombay and Calcutta constituted the major programme during this period Dairy development was also initiated in Andhra Pradesh, Bihar, Madhya Pradesh, Orissa, Tamil Nadu and Uttar Pradesh During the Second Plan (1956-61), 7 liquid milk plants were established and 8 pilot schemes were initiated as prelude to the establishment of more dairy plants Work was initiated in the establishment of 3 creamaries, 2 milk product factories and 31 liquid milk plants (National Commission on Agriculture, 1976)

India ranks first in the world in respect of the population of cattle as well as buffaloes. According to the 1987 Indian Livestock Census, India accounts for 199.7 million cattle and 76 million buffalo population India with a milk production of 54.9 million tonnes in 1990 ranks third in the world, next to the Soviet Union and the United States, while the target for 2000 A D is 78 million tonnes (Dairy India : 1992).

Hitherto, the dairy industry in India was characterised by subsistence oriented production, where family consumption was the main consideration for milk production. In the recent years, its outlook has been slowly changing and the milk producers are considering it as a commercial enterprise. Though the per capita per day milk availability has increased from 132g in 1950-51 to 193g in 1994-95 (See Fig 1), it is lower than the minimum nutritional requirement of 210g recommended by the Nutrition Committee of Indian Council of Medical Research (Dairy India : 1992). Thus, at present, there is a large gap between the demand and supply of milk in India. Today, the major constraint on milk consumption is not only the limited production of milk, but also the lower purchasing power of the majority of people as well as inadequate handling and processing facilities and marketing infrastructure.

In the Third Five Year Plan (1961-66), the National Dairy Development Board (NDDB) was set up by the Government of India in 1965 at Anand with the major objective of providing a non-profit basis any technical services which implementing agencies might require for building up their dairy projects. As a result of the measures taken during the Third Five Year Plan and Annual Plans, 48 liquid milk plants, 7 milk product factories and 37 pilot milk schemes came into operation on the eve of the Fourth Plan. Under the Operation Flood I (1970-81) taken up during the Fourth Plan (1969-74), World Food Programme authorities were to supply free of cost 1.26 lakh tonnes of skimmed milk powder and 0.42 lakh tonnes of butter oil, which, when reconstituted into liquid milk by the four metropolitan dairies at Bombay, Calcutta, Delhi and Madras would generate funds to be utilised for providing assistance by way of grants (30 per cent) and loans (70 per cent) to state governments for the expansion of milk processing facilities and enhancing milk production and procurement (National Commission on Agriculture : 1976).

The major programme in the dairy sector in the Sixth Five Year Plan (1980-85) was Operation Flood II (1981-85). This project was implemented through a three-tier cooperative structure with State Federation at the apex level, with Unions at the district level and Milk Producers' Cooperative Societies at the village level. The functions of the Milk Producers' Cooperative Societies at the village level are to arrange necessary inputs such as loans, fodder development, veterinary facilities and collect the members' milk on regular payment. The Cooperative Milk Producers' Union at the district level provides technical inputs to the Primary Milk Society, organises dairy extension services, collects members societies' milk, and undertakes processing and marketing of milk and milk products. The Cooperative Dairy Federation supervises, guides and controls the activities of the affiliated milk unions, promotes cooperative principles, quality control of milk, milk products and markets surplus products of unions, promotes scientific dairy practices, advises on the price policy, construction of processing plants and arranges training for members and staff of district Unions (Pandey and Jalal : 1991)

The Operation Flood III programme (1985-94), coinciding with the Seventh Five Year Plan (1985-90), aims at establishing viable and self-sustaining farmer-owned and controlled cooperatives. The programme envisages an increase by 70,000 in the number of dairy cooperative societies and expansion in dairy processing and marketing infrastructure to handle an average procurement of 137 lakh litres of milk per day. There would be an increment of 132 per cent in peak procurement and 174 per cent in liquid milk marketing from the Operation Flood II achieved level. The number of farm families would increase to 80 lakhs (Dairy India : 1992). The details of village milk producers' cooperatives, member producers and procurement under Operation Flood 1970-1990 are presented in Table 2 (P. 18).

A Technology Mission on Dairying was established in 1987 to improve productivity, reduce cost of operation and ensure greater availability of milk and milk products. During the Eighth Plan (1992-97), the 'Operation Flood Project' will be continued for replicating Anand pattern of milk cooperatives and special emphasis will be laid on consolidating the earlier achievements through (a) enhancing productivity, (b) optimising efficiency of milk cooperatives, (c) strengthening their institutional base management, and (d) ensuring long term sustenance of the financially strong farmer-owned and farmer-managed organisation (Eighth Plan 1992-97)

### ***Dairy Development in Andhra Pradesh***

As regards the dairy development in Andhra Pradesh, in the year 1960, an Integrated Milk Project was established to link milk producing areas to milk consuming areas. It was converted as Andhra Pradesh Dairy Development Corporation, a state government undertaking in 1974 and was made a federation of cooperatives, viz., Andhra Pradesh Dairy Development Cooperative Federation Limited (APDDCFL) in October 1981 in order to have dairy development on cooperative lines and implement "Operation Flood II" programme. There were 83 dairy units comprising 68 chilling centres, 6 milk product factories with a capacity ranging from 0.01 to 2.50 lakh litres per day and 9 district dairies. About 5 lakh rural milk producer families spread over in 12,418 villages mostly small and marginal farmers, Scheduled Castes and Scheduled Tribes were benefited by selling milk through 7,800 collection centres to the Federation.

During the Seventh Plan, it was envisaged that the technical input programme contemplated by Andhra Pradesh Dairy Development Cooperative Federation on

Anand Dairy Cooperative pattern and under IRDP schemes for socio-economic benefit of large number of milk producer families implemented through Animal Husbandry Department and Social Welfare Department, etc , would enhance the milk production in the milk-shed areas of the existing dairy units leading to further marketable surplus of about 1 lakh litres per day fetching about Rs. 1 75 lakh cash flow per day as an additional income to the rural farmers, majority of whom would be small and marginal farmers and agricultural labourers (Seventh Five Year Plan, Andhra Pradesh : 1985-90)

The Operation Flood I programme was implemented in Guntur district in 1977 It has created a tremendous impact on milk producers because of providing technical inputs within their reach by the Union besides payment of bonus to the producers With the success of Operation Flood I in Guntur, the Government has accepted to implement Operation Flood II in 16 districts of Andhra Pradesh Organisation of Primary Dairy Cooperatives at village level purely on Anand pattern, organising training programmes and visits of milk producers to Anand and exposure to the functioning of the dairy cooperatives in Gujarat have motivated and created greater awareness and confidence among the milk producers to manage their own affairs (Rao : 1991).

### ***Special Programme for Inducting Rural Women to Dairy Farming***

The main objective of this special programme is to bring socio-economic change in the rural women by motivation and induction of dairying and encourage them to play an active role in the village cooperatives. Dairying is the main source of supplemental income in the rural areas, in which, women are taking active part; 80 per

cent of the work in dairy farming being done by women. Further, majority of the rural women engaged in dairy farming mostly belong to the category of agricultural labour, small farmers and marginal farmers. Therefore, encouraging more women to take up dairy farming, particularly, from these categories, will not only generate employment potential on a year-round basis, but also improve their socio-economic conditions. This programme will specially be directed towards the induction of women into the village cooperatives and encourage their participation and technical inputs. Services like animal health, artificial insemination, feed and fodder, etc. will be provided free of cost with the grants provided under the plan (Seventh Five Year Plan, Andhra Pradesh 1985-90). A programme was taken up earlier on pilot basis with the financial assistance of Ford Foundation to induce women for dairying, 169 Primary Dairy Cooperative Societies which were exclusively managed by women were organised in the districts of Krishna, Chittoor and Nalgonda. Another scheme was also taken up with the assistance provided by the Government of Netherlands under which 41 Women Dairy Cooperative Societies were organised in Prakasam district. These societies were found functioning well (Annual Plan, Andhra Pradesh 1988-89).

### *Concept of Cooperation*

Taylor emphasised two basic sociological ideas in cooperation, viz., a) people have personal relationships rather than impersonal relationships, b) people are motivated by a device to join with others in a mutual effort. The religious and ethical idea of cooperation is the unselfishness and service to humanity. Cooperation as a method of conducting business is an economic philosophy of cooperation.

The Consumers' Cooperation in England was initiated by the flannel weavers of Rochdale combined together in the Rochdale Society of Equitable Pioneers to secure their household requisites at wholesale prices. The cooperative credit movement was originated in Germany by the poor farmers of Germany under the guidance of Raiffeisen combined into cooperative societies to obtain cheap credit. With the spread of industrialisation and urbanisation, farmers were forced to combine together and this led to the emergence of agricultural cooperation in Europe in various forms such as societies for the purchase of raw materials and implements required for cultivation, cooperative primaries in Denmark, cooperatives for improvement of livestock, while in Canada and USA concentration was on cooperative marketing. In India, we have developed cooperative credit on the lines of Raiffeisen and Schulze Delitzsch of Germany.

Cooperation has been known and practised in India in various forms such as Kula (Kinsmen, relatives, and friends worked cooperatively), grama (village), sreni (banker), jati (caste), joint family system, the panchayat, chit-funds (raising money), nidhis (mutual loan association), phad system (mutual assistance in agricultural operations), gonchi system (joint cultivation) and grama sabha, although cooperative movement was officially set up in 1904 (Memoria 1973).

As to the definition of cooperation, Strickland defined cooperation as a group of individuals associated to secure a common end and by joint effort. Seligman viewed cooperation as a system which stands for distributive justice, eliminating all middlemen. Calvert observes cooperation as an organisation based on equality for the promotion of economic interests of the people. Gordon and O'Brien view, cooperation is a relation between business and ethics.

The MacLagan Committee on Cooperation defines the theory of cooperation as "an isolated and powerless man can, by association with others, obtain mutual support in his own degree the material advantage available to wealthy or powerful persons and thereby develop himself to the fullest extent of his natural abilities" Talmaki has defined a cooperative society as "an association of the weak who gather together for a common economic need and try to lift themselves and others out of weakness into strength, through business organisation, conducted for the common benefit of all who join it". Sir Horace Plunkett, the founder of Irish Cooperation, sums up the theory and practice of cooperation as "Better farming, Better business, Better living"

Herrick defined cooperation as the reciprocal utilisation of forces and resources for common benefit James Peter Warbasse observes cooperation as "a way of life whereby people unite democratically in the spirit of mutual aid to get the largest possible access to the things and services they need" Mehta regards cooperation as an aspect of big movement which promotes the growth of voluntary associations which aim at achieving common economic end According to Katju, "cooperation is self-help, as well as mutual help to get profits and to overcome disability for want of adequate financial resources and to better their economic conditions". Watkins describes cooperation as "a third dimension giving substance to democratic rights".

According to the Cooperative Planning Committee (1946), "Cooperation is a form of organisation in which persons voluntarily associate together on a basis of equality for the promotion of their economic interests. Those who come together have a common economic aim which they cannot achieve by an individual isolated

action because of the weakness of the economic position of a large majority of them. This element of individual weakness is overcome by pooling of their resources, by making self-help effective through mutual aid, and by strengthening the bonds of moral solidarity between them" Thus, the concept of cooperation envisages a democratic group of individuals with an association to eliminate exploitation, with open membership following the principles of democracy, equality, and liberty with economy (efficiency) and responsibility

The reformulated principles of cooperation by a commission appointed by the International Cooperative Alliance in 1964 under the chairmanship of Karve of India are open and voluntary membership, democratic administration, self-help and mutual help, principles of service, distribution of surplus, political and religious neutrality, proper weightment and supply of unadulterated goods, principle of education and cooperation among cooperatives (Saxena 1973). In the words of Sri Ram (1991), a cooperative is one of the forms of organisations representing group entrepreneurship where people get together to meet their common needs, which has proper structure and a set of principles.

### *Need for Women Dairy Cooperatives*

Keeping and breeding of milch cattle is the most ancient of agricultural pursuits in India. Dairy farming has the greatest potentiality to benefit the rural population including the small and marginal farmers and agricultural labourers for economic growth and development. It is a known fact that rural peasant women perform a large part of the work related to the maintenance of dairy cattle, milk production and processing. Most dairy related jobs such as cutting and fetching grass

and fodder, bathing the buffaloes, cleaning cattle sheds, milking, selling milk at the cooperatives and other collection centres are all labour intensive activities that are performed by women in landless and small peasant households. In medium farmer households women are engaged in dairy related work such as feeding and milking which is confined to the house while outside jobs are carried out by hired labour. Thus, dairy farming is recognised as women's work.

In the cooperatives which have been built up since 1970 under the Anand model (National Commission on Agriculture 1971), membership is given to farmers who own buffaloes. Hence, women who look after the cattle and maintain constitute a very minute percentage of the total membership. Hence, there is a need to integrate women, who in most parts of India bear the primary responsibility for care of animals, into the organised cooperative dairy sector.

The incidence of women's participation in the labour force and their contribution to the total family income are higher in households with lower economic status. The poorest families are most dependent upon women's economic activities. These hard facts have somehow been overlooked by the policy makers in fixing the target group i.e., the male head of the family for poverty alleviation programmes. They failed to visualise the strategic potential of women as critical actors in the process of bailing out their families out of poverty. Primarily women are economic agents, constrained with their limitations to the access to productive resources and institutions and hence, unable to escape from poverty. Measures to enhance women's access to productive resources are of supreme importance as direct and self-targeted means to reduce poverty.

Even where there is a male earner, women's earnings form a major part of the income of poor households. Moreover, women contribute a larger share of what they earn than males to basic family maintenance, and increase in women's income also contributes more directly to better child health and nutrition (World Bank 1989). If women are made economically more productive, it will not only reduce their dependency and enhance their status in the family, but will also contribute towards increasing aggregate labour productivity, increased household income and better priorities for spending.

In order to bring about the rural women of India into the national mainstream more effectively, a strategy may be evolved by which they can be organised into groups with common economic objectives, greater access to institutions, credit, marketing, and processing, technological and extension support towards improving their techniques of production.

In India 75 million households are involved in dairy farming, though as of 1990 there were only 25,000 women in women's dairy cooperatives (Rose 1990). Even though it is a central tenet of India's dairy cooperative movement that membership is open to all producers irrespective of sex, recent data show that women make up hardly 17 per cent of the total country-wide membership and constitute less than 3 per cent of the dairy cooperative society board's members (Sen and Jhansi Rani : 1990). In spite of 30 per cent of the integrated rural development programme lending being ear-marked for women, less than 15 per cent of the IRDP credit (for livestock and all other purposes) reached women borrowers even after special targeting for women was introduced into IRDP (World Bank . 1989). Hence, there

is a dire necessity to promote All Women Dairy Cooperative Societies, which meant the empowerment of women in particular and families in general

### *Scope and Objectives of the Study*

In Chittoor district, there are 890 milk producers' cooperative societies as on December 1994 with membership of 66,270, while Chandragiri Mandal (the study area) comprises 28 societies with the membership of 2,295 (Handbook of Statistics, Chittoor 1993-94). There are 110 All Women Milk Producers' Cooperative Societies in Chittoor district. Women members constitute nearly 23 per cent of the total members in Chittoor District Milk Producers' Union reflecting the extent of women's participation in the development of dairy industry in the district. Though agriculture is the main occupation for majority of people in the district, it cannot by itself meet their requirements because of dry weather and lack of proper irrigation facilities; as a result they were forced to go in for a subsidiary occupation. That is why, a very high percentage, approximately 85 per cent of rural population is engaged in milk production. Hence, there is no need to over emphasise the role played by the dairy cooperatives in building the economic welfare of milk producers, in particular farm women. So far, APDDCFI has organised 300 women cooperatives with 20,000 women members. This was an attempt to provide infrastructure at the grass root level to make the sole recipient of the income for a set of activities carried out primarily by women.

Very few studies have been conducted to highlight the impact of women dairy cooperatives in terms of social and economic changes in the women who involved in the dairy programme. Hence, the present study is undertaken to examine the socio-

economic status of the Women Milk Producers' families, their income and liabilities, exposure to modern influences, entrepreneurial attributes, impact of dairy entrepreneurship on nutritional and health status of their families, awareness and attitudes toward dairy as an enterprise, impact of dairy entrepreneurship on their power of decision making and change of their status in their families. The Investigator does not prepare to test any theoretical implications of dairy entrepreneurship nor intends to test any specific hypothesis. The Investigator wishes to explore the extent to which the organised membership in All Women Milk Producers' Cooperative Societies has brought any changes in the economic and social conditions and also corresponding changes in the status of women milk producers and their families. The study was thus undertaken in Chittoor District with the following specific objectives

1. To analyse the Socio-economic Status (SES) of members of All Women Milk Producers' Cooperative Societies and also examine income and liabilities of their families
2. To examine the services rendered and the extent of benefits derived by the members from All Women Milk Producers' Cooperative Societies
3. To estimate the dairy incremental income of milk producers of All Women Milk Producers' Cooperative Societies and examine their association with the background and preditory variables
4. To examine the impact of dairy entrepreneurship on the families of women milk producers.
5. To examine the entrepreneurial characteristics of the members of All Women Milk Producers' Cooperative Societies and analyse their association with dairy entrepreneurship.

- 6 To assess the effects of modern influences like mass media and contact with extension agency on dairy performance
- 7 To study the awareness, attitudes and self-perceived satisfaction of women milk producers towards AWMPCS and dairy enterprise
- 8 To analyse and understand the relationship between the predictory variables, viz., SES, media exposure, extension contact, awareness and attitudes towards AWMPCS, entrepreneurial attributes, resource-support system, milk yield, dairy income, impact of dairy on family and status of women and also assess the contribution of all these variables toward dairy performance
- 9 To examine the problems faced and solutions suggested for effective functioning of All Women Milk Producers' Cooperative Societies and also for the successful implementation of dairy programme

### *Limitations of Study*

The study has the following limitations

- 1 The study had the limitation of time and financial constraints at the disposal of single Investigator
2. The area of investigation was restricted to nine villages in one Mandal. As such, generalization of the findings could be restricted to the area under investigation in particular and areas where similar conditions prevail in general.
3. Sufficient care has been taken to design proper tools to get the data for the study as objectively as possible. However, since most of the data were based on verbal responses of the respondents, the chance of bias could not be completely eliminated. It is also possible that some of the responses might not

have correctly or fully reflected the respondents' inner thoughts and attitudes about the milk cooperative societies

### *Presentation of the Study*

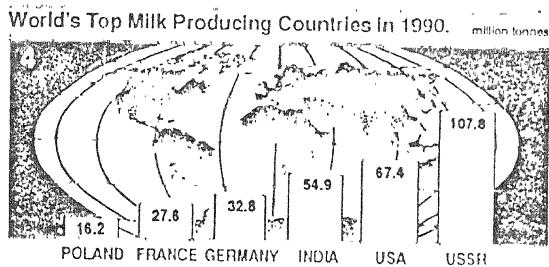
The entire study is divided into five chapters. *Chapter I* deals with the introduction, the need for women dairy cooperatives, scope, objectives and limitations of the study. *Chapter II* presents a brief revision of relevant literature. *Chapter III* discusses the methodology of the study, namely study area, primary and secondary data, sampling, research tools, measures of variables and statistical analysis. *Chapter IV* consists of findings and discussions. *Chapter V* comprises summary, implications and conclusions and points for future research on the subject. References and appendices are provided at the end.

## Tabel

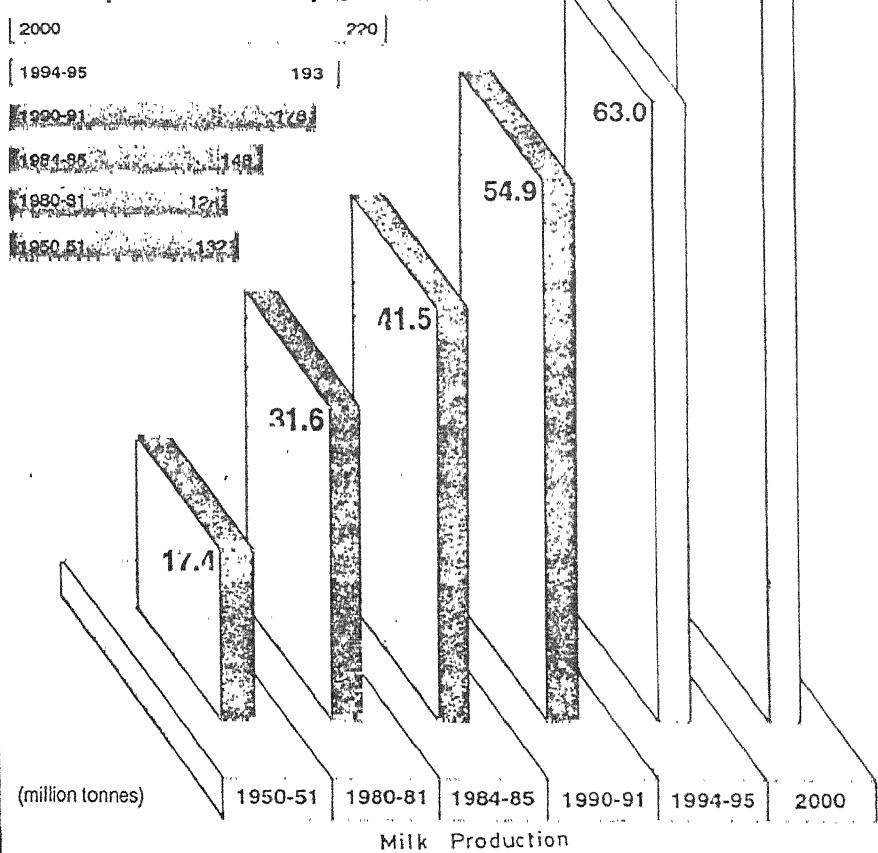
## Population at a Glance (1991)

	Total	Rural/Urban	Population			Literacy		
			Persons	Males	Females	Persons	Males	Females
India*	841,324,222	437,805,805	-0.65/-8.47	(-8.5)	(-8.5)	362,74,360	230,74,68/-	-3/-7675.9
Rura.	627,-,6,597	323,-,05,-,29	30,-,0,-,18	(-8,-8)	(-8,-8)	228,009,9,-	(52,63)	(32,-4,-)
Urban	217,-,77,625	-476,-,656	.02,-76,969	(-7,-9)	(-7,-9)	(36,36)	-5,-59,-,25	76,-,5,-0,66
Ancara Provinces	70,4	66,354,559	327,6,653	(-9,3,-)	(-9,3,-)	-3,-,65	(-6,80)	(25,-3,-)
Rura.	48,5,-,866	2,-,535,7,7	2,-,006,-,49	(-9,-5)	(-9,-5)	(-82,-,72	9,83,-,396	-987,076
Urban	17,8,-,2,693	9,-,02,-,89	8,-,7,0,50,-	(5,-,0)	(-8,90)	(60,53)	(-0,08	(20,77)
Citroor	3,256,2,-7	.65,-,273	.60,-,97,-	(50,8,-)	(-9,20)	(-9,29)	(-9,68)	(26,26)
Rura.	2,6,-,987	.32,-,06,-	.286,9,23	(50,-,7)	(-9,29)	(-9,29)	(-9,68)	(70,67)
Urban	6,-,5,-,260	.320,2,-,9	.32,-,5,05,-	(5,-,7)	(-8,83)	(62,88)	(7,-,18)	(5,-,7)
Chandragiri	Rura.	50,-,5,-	2,-,09	(5,-,33)	(-8,67)	(55,68,-	-5,896	9,788
						(5,-,20)	(6,-,75)	(40,-,0)

Source: Census of India, 1991, provisional population figures for Jammu & Kashmir as on 1.1.1991.  
 \*Note: The 1991 Census has not been accepted in the calculation in view of elections for Jammu & Kashmir as on 1.1.1991.  
 The State election results on population projections (October 1989). The projected population figures exclude population of areas under unauthorised occupation of Pakistan and China where census were not taken. Literates do not include figures for Jammu & Kashmir where census was not taken yet.



### Per Capita Availability (grams/day)



Source: Dairy India, 1992.

Figure 1. Milk production and availability (1950-2000 A.D.)

Table 2

## Growth of Village Milk Producers' Cooperatives and Procurement Under the Operation Flood 1970 to

Year	No of Cooperative Societies	Member Producers ('000)	Annual Milk Procurement (million tonnes)
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*Operation Flood - I*

1970-71	1,588	278	0.1898
1971-72	1,811	327	0.2372
1972-73	2,200	361	0.2774
1973-74	2,598	394	0.2226
1974-75	2,966	445	0.3175
1975-76	4,533	562	0.4197
1976-77	7,681	723	0.5657
1977-78	9,306	943	0.6205
1978-79	10,099	1,213	0.7336
1979-80	11,436	1,475	0.8614
1980-81	13,270	1,747	0.9344

*Operation Flood - II*

1981-82	18,422	2,124	0.147
1982-83	23,496	2,620	
1983-84	28,614	3,116	
1984-85	34,523	3,632	2.1097

*Operation Flood - III*

1985-86	42,692	4,484	2.8762
1986-87	49,077	5,097	2.8652
1987-88	54,525	5,666	2.8105
1988-89	58,883	6,250	2.9090
1989-90	60,825	7,003	3.5821

## **CHAPTER 2**

### ***REVIEW OF LITERATURE***

Past studies pave the way for future research endeavours. An acquaintance with the earlier studies is felt necessary to develop a comprehensive idea of the present study. Not much of significant research has been done on specific problem like the impact of dairy entrepreneurship on status of women. However, an effort is made to present the available literature, concerned directly or indirectly with the problem under investigation. For the purpose of convenience and clarity, the available literature is presented under the following heads:

- a. Socio-economic profile of members of Milk Producers' Cooperative Societies
- b. Dairy and its impact on women and the families of Milk Producers Cooperative Societies
- c. Extent of benefits derived by the members of Milk Producers Cooperative Societies.
- d. The entrepreneurial characteristics of the Milk Producers Cooperative Societies
- e. The problems faced and the solutions for effective functioning of Milk Producers Cooperative Societies

#### *Socio-economic Profile of the Members of Milk Producers' Cooperative Societies*

Ranganadhan (1977) while studying the socio-personal characteristics of cross-breed dairy cattle keepers, found that the majority were middle aged, literate, small farmers with medium sized families and small herd size of cross-breed cows.

Kherde, et al., (1978) observed in their study "Effectiveness of Training Programme in Clean Milk Production for Rural Ladies" that the majority of respondents were young and big farmers with primary education. They belonged to high caste group and had agriculture as their main occupation.

Kherde, et al., (1979) in their study entitled "A Study of the Effects of Milk Products Training Programme in Villages of Karnal" reported that 44 per cent of the respondents were aged and 35 per cent middle aged, 76 per cent of the respondents had large size herds, while 78 per cent of the respondents were under the category of low social participation, 87 per cent had maximum extension contact and 66 per cent had agriculture as their main occupation. Majority of the respondents had medium size families and were educated up to high school and above.

Pawar (1979) through his study on the training needs of the members of Primary Milk Producers' Cooperative Society in Satara district of Maharashtra, pointed out that majority of the milk producers were of middle aged, had medium land holding, and 80 per cent of them had low social participation

Rama Chand, et al., (1979) while studying the effectiveness of fodder demonstrations conducted in live-lab villages of Dairy Extension Division of NDRI, found that more than half of the respondents were of middle aged and had medium sized families. Majority of them had small land holdings with large size herds. About 48 per cent of the respondents were illiterates and had moderate mass media exposure, and 92 per cent of them had low social participation.

Singh and Dhaliwal (1980) observed the profile of an average dairy respondent as younger in age, educated up to middle standard and had small farms with a herd size of 5-6 milch animals.

Chauhan and Chauhan (1982) in their study on "Correlates of Level of Aspiration of High and Low Milk Producers", observed that the low and high milk producers were very close to each other so far as their level of aspiration was concerned

Reddy and Channagowda (1982) in their study observed that 55 per cent of the dairy farmers had consulted formal sources such as route supervisor, veterinary doctor, veterinary livestock inspector, veterinary extension officer, etc., regarding cultivation of fodder. Media like radio, television and news papers were consulted by less than 48 per cent of farmers.

Sohal, et al., (1982) in their study "Impact of Intensive Extension Education on the Adoption of Scientific Dairy Farming by Landless Rural Families Around Karnal" reported that majority of the respondents had large size families with big herd size. This indicates the fact that dairy farming is labour intensive and suits the large sized families.

Gopalakrishnaiah (1984) reported that majority of the dairy farmers belonged to middle age group (34 to 54 years). Majority of the respondents were marginal farmers and small farmers and had middle school education, medium level of herd size, extension contact, mass media exposure, risk taking ability and economic motivation.

Prabhakara Sharma (1984) in his study "Dairying in Arabupalem" observed that 37 per cent of the respondents reported dairying as their primary occupation, while 58 per cent depended on agriculture and consider dairying as secondary occupation. The

remaining 5 per cent were agricultural labourers. It is significant to note that most of the respondents whose primary occupation was dairying belonged to the backward Gavara caste, who also happened to be the predominant caste in the region of Visakhapatnam.

Rao (1986) in his study "Some Problems of Milk Producers in a Delta Village of Andhra Pradesh" reported that 58.65 per cent of the respondents were illiterates. The size of operational land holding was 1.91 hectares and the size of the family was 6.24 members. 100 per cent of the households had milch animals.

Bhanja and Venkatadri (1987) in their study "Analysis of the Profiles of Dairy Cattle Beneficiaries Under IRDP" observed that the milch animal scheme beneficiaries were from the middle age group with a family size of less than 5 in 52.25 per cent of cases. Programme beneficiaries were more from the nuclear families than from the joint families. Agricultural labourers were large in number and most of them were landless. Majority of the beneficiaries did not have good formal education and were illiterates.

Anil Chauhan and Sharma (1989) conducted a survey on socio-economic profile of milk producers and found that majority of the respondents (62 per cent) belonged to the lower strata of rural society comprising Backward Castes and Scheduled Castes. All the medium farmers belonged to the upper castes. 90 per cent of the milk producers had agriculture as their main occupation. Rao (1989) found that majority of the dairy farmers had medium level of social participation.

Rama Chand, et al , (1990) reported that majority of the dairy farmers had low level of social participation Sivanarayana (1990) observed in his study "An Analytical Study on Adoption of Improved Practices Among Small and Marginal Farmers of Diversified Farming in Guntur District of Andhra Pradesh" that majority of the respondents were middle aged, literates and had medium level of experience, social participation, mass media exposure and innovativeness

Raju, et al., (1991) observed in his study that majority of the respondents were middle aged and had education up to high school . Majority of the respondents had medium socio-economic status, material possession, animal possession, mass media exposure, information seeking, innovativeness, knowledge and extent of adoption.

Rao (1992) observed that majority of the dairy farmers had medium experience in farming more than three-fourths (86.67 per cent) of the respondents had medium social participation and only 13.33 per cent had high social participation

Sastry and Thammi Raju (1992) found in their study that livestock keepers were generally middle aged (34 to 58 years) and had medium size families (3 to 5 members). They were hardly literate. They possessed no or small land (<5acres), kept small herd (1 to 4 animals) and mixed herds of cattle + buffaloes + bullocks in case of landed farmers and cattle buffalo + goats in case of landless

### *Dairy and its Impact on Women and the Families of Milk Producers' Cooperative Societies*

John and Thomas (1974) carried out a case study in Irinjala Kuda area in Kerala State. They studied about how a normal house-wife changed to successful dairy woman. This had been proved by a landless lady named Ms. Kalli. She started cow keeping in the year 1940 with a Desi cow. From this, she got 3 female calves. Her success in dairy farming came by stages through careful breeding, feeding and management of the herd. She was one of those who were inquisitive and got herself self-educated. Kalli is a prosperous dairy woman today. There were four milking cows, two dry cows and 4 female calves. But she has no land for cultivation. All the management practices were looked after by herself. Her milch animals produced about 20 litres of milk per day. Out of that one litre was consumed at home and the rest of milk was sold in the nearby tea shop. She was getting a premium for the milk. In fact she has become a progressive dairy farmer and has helped her own family to have a better standard of living through production of milk.

Kokila Bhatt (1975) discussed the role of women in animal husbandry field. In fact, maintenance of the milch animals, production and sale of milk and milk products were considered solely the responsibilities of the housewives in the rural areas. Further, she reported that women had derived considerable employment opportunities and income from dairy farming in the area and the analysis of data had showed that income from two buffaloes could enable a landless widow to look after herself and her family.

Thakur (1975) found in his study that the development of organised dairying was most important from the point of view of the weaker sections in the villages. Landless people earned as much as 65 to 70 per cent and small farmers earn more than 25 to 30 per cent of their total income from dairying. The cash income obtained continuously from the sale of milk could be used for better management of milch animals and for the purchase of improved agricultural inputs to some extent which could help the farmers in increasing their total farm income.

Singh and Balister (1979) in their study stated that the dairy was more profitable proposition on families where family labour was abundantly available. However, they concluded that net return per animal remained low because farmers took loans from milk vendors to deposit margin money and sold the milk at a lower price to the vendors.

Charata Ram, et al., (1980) observed that financing milch animals through SFDA resulted in higher milk yield and better marketed surplus for small, marginal farmers and agricultural labourers. Furthermore, they stated that the dairy development programme would provide good scope for the employment of labourers and also generate a good amount of income for repayment of the loans and for improving the living standards.

Hiranand and Kumar (1980) carried out a study on the role of women milk producers in decision-making about family issues. In their study the women were found to influence the decisions related to fixing marriages of sons and daughters, purchase and sale of land, borrowings, purchase and sale of animals.

Ahmed (1981) observed in his study that the beneficiaries who got animals under milch cattle scheme got new employment opportunity for their families. Dairy farming provided the beneficiaries regular cash income throughout the year. They concluded that supply of milch animals really helped the rural poor.

Shah (1981) while reviewing the resolutions of group discussions of Planning Commission, concluded that the livestock based development approach may generate additional employment, but might not augment additional income due to poor infrastructure facilities.

Sundar (1981) carried out a study on the impact of the dairy cooperatives on the lives of the women in the Khodgodra village in Kaila district. She also evaluated how successfully women acted as managers indicating there was a real shift in the traditional balance of power in society between men and women. She reported that it had given the women a new confidence in their role in the community. It increased the income of the women. Although the women did not have control over the entire income earned from milk and in any case expand it largely for the benefit of the entire family on food, clothing, utensils, a little jewellery, or dowry for their daughters, they conceded that they had at least a little voice now in spending the income. Regarding impact on literacy, attitudes toward family planning, consumption levels, and on health, it seems there was some impact though not a great deal.

Rani and Singh (1982) revealed that women had performed 70, 66 and 65 per cent of dairy farm work and had an overall average annual work loads of 380, 368 and 363 man equivalent days (including domestic work and crop work as well as dairying).

In landless labour, in the categories of marginal farmer (up to 1 hectare) and small farmer (1 01-2 0 hectare) the family labour income from the dairy enterprise was Rs. 841, Rs. 1,117 and Rs. 1,146 respectively

George (1984) reported that the dairy scheme substantially improved the economy of programme beneficiaries. The contribution of dairy to total family income increased from 5.12 per cent in the pre-implementation to 36.58 per cent in the post implementation of IRDP

Prabhakara Sharma (1984) found in his study "Dairying in Arabupalem" that two-thirds and one-third of the respondents borrowed up to Rs 5000 and Rs. 1 0,000 respectively from money lenders to meet consumption expenditure on food, clothing and medicines.

Sekrau (1984) revealed in his study that the formation of Anand Pattern Cooperative Society under Operation Flood I and II has not only meant the organisation of cooperatives and collection and processing of milk, but it has also included veterinary services, production of feed, artificial insemination and cooperative education. This overall approach to well-being has done more than simply increase the income. It has led to profound changes in the life style of cooperative members.

Harikumar (1985) in his study indicated that after the introduction of IRDP dairy schemes, 20.6 per cent of families moved above the Poverty Line. But 79.4 per cent of families were still below the Poverty Line. The number of beneficiaries who were receiving income less than Rs. 2,500 per year was decreased from 97.33 per

cent to 44 per cent. Further, there has been a creation of an additional employment of 3650 man hours among different sample beneficiaries as a result of the programme.

Bhogal, et al., (1986) reported that the dairying had contributed significantly to the total family income of small and marginal farmers and landless labourers. Kartar Singh and Mukunda Rao (1986) reported that it was noteworthy that the nutritionally vulnerable sections like expectant and nursing mothers and children aged up to 6 years in the cooperatives located villages got a greater share of milk than their counterparts in the control villages.

Marty Chen, et al., (1986) carried case studies in three districts of Andhra Pradesh, *viz.* Nalgonda, Chittoor and Krishna. The study attempted to look at the problems and prospects of providing rural women with an asset base and income source through the acquisition of milch bovines, provision of adequate inputs and services, and marketing arrangements. The study revealed that women entrepreneurs were playing a vital role in the family. Women entrepreneurs were developing their status in the family as well as in the society and thus they were gaining momentum. Women entrepreneurs should try for greater endeavour leading to their achievement.

Mitra (1986) revealed that the size of landholding made a crucial difference in the degree of women's labour participation in dairy enterprise. In small peasant producer classes, women's labour was a crucial input for dairy production, whereas in rich peasant households women played a supervisory role. Women's labour input into dairy cooperative societies was found to intensify milk production although the women were not found to gain ready access to the fruits of their labour.

labourers reported that their income had increased. However, employment level had increased at higher percentage than income, owing to the supply of poor quality animals to the beneficiaries.

Singh and Rajiv Singh (1988) revealed that the dairy financing Grameena Bank underwent overall changes with the investment pattern of borrowers in turn of higher assets, particularly in case of milch animals. These in turn helped the vulnerable sections (agricultural farm labourers, marginal and small farmers) in the area in raising their productivity and income on one hand and the level of employment on the other side. On small farms 80 per cent male labour had contributed about 80 per cent of income from dairy enterprise. Besides, increased milk output also provided greater supply of food item.

Sinha and Rama Muithy (1988) observed in their study "Impact of Membership of Dairy Cooperatives" that surprisingly members with longer (over 10 years) membership lagged behind in improving their socio-economic status, 66.67 per cent of them were in medium improvement category. But over 40 per cent of other two categories had more improvement in socio-economic status, whereas only 22.22 per cent of longer membership category had more improvement. Members with more length of membership tend to improve their own standard of living rather than reinvesting in dairy.

Anees (1989) reported in his study "Economic Potential of Dairy Scheme in Alleviation of Rural Poverty" that among sample beneficiaries only 15 per cent were found to be highly successful and could derive a net income of more than Rs.6,400;

42 per cent had derived income less than Rs.3,500, 44 per cent between Rs 3,500 and Rs.6,400. Among beneficiaries, 65 per cent could cross the Poverty Line and 60 per cent had moved up in the income ladder Bhanja (1989) reported that dairy farming by landless and poor farmers substantially contributed to their family income

Balister and Umesh Chandra (1990) found that dairying was main thrust of IRDP in rural areas Among agricultural activities dairying could raise income up to 31 per cent which was ranked next to piggery Out of 150 beneficiaries, 56 per cent were able to cross the Poverty Line of Rs.3,500 in 1990

Jayachandra (1990) in his study "Dairying in Drought Prone Areas" conducted in Chittoor District of Andhra Pradesh reported that there was a gross return of about Rs.5617.66 per milch animal during the year, while the net return per milch animal for the year was Rs.220.58, thereby indicating dairying a low paying proposition Low net returns were mainly due to high cost of feeding More costly concentrates were fed to the animals even at low levels of milk yield because of non-availability of green fodders almost all the year, except for a few months of rainy season Input value for home produced feed and fodder was considered high However, if these were treated as by-products they would go waste, and considering the cost of labour to zero, the dairying enterprise seemed to be economically profitable. As regards the employment in dairying, a farmer gets employment for about 107.05 man days in a year and maintains about 1.7 milch animal in his farm.

Jyothi Rani and Prabhakar (1990) studied the impact of dairying scheme on living conditions of Scheduled Castes. They reported an improvement in the living

conditions particularly in terms of food in all the sample beneficiaries. The progress has also been noticed in other aspects like clothing, education, health, reduction in debts, improvement in agriculture, etc. However, the positive effect on the living conditions of small farmers was high compared to marginal farmers.

Sen and Jhansi Rani (1990) reported that the All Women Dairy Cooperative Societies had resulted in increased awareness among dairy women, greater access to income and improvement in quality of milch cattle

Usha Rani (1990) stated in her findings that mean income of female members increased from Rs 2,692.93 to Rs.6,589.92 after becoming member of AWMPCS. Jagjit Punirath (1991) reported that a gender focused approach could generate mass employment opportunities for women in rural areas and expedite the process of women's participation in dairy development. The involvement of women in dairy cooperatives not only improved their economic position, but also assisted them in breaking down the barriers created by feudal traditions and poverty. All Women Dairy Cooperatives can play an important role in bringing rural women, particularly those belonging to weaker sections, into the mainstream, and thus help in their emancipation.

Kanaginahal, et al., (1991) in their study "Integrated Rural Development Programme in Dharwad District, Karnataka - A Concurrent Evaluation of Dairy Scheme" indicated that 63.66 per cent of the beneficiaries of dairy scheme of IRDP had increased their income about Rs.3,501, whereas it was only 40 per cent among the non-beneficiaries. Nearly, 20 per cent of the beneficiaries of the dairy enterprise had an income range of Rs. 5501 to Rs. 8501 and above, whereas 10 per cent of the

families were in the non-beneficiaries category. The number of households brought above the Poverty Line was more among the beneficiaries of dairy scheme than among the non-beneficiaries.

Raju (1991) indicated that majority (55.00 per cent) of cross-breed dairy respondents fell under the low income category followed by the medium (29.17 per cent) and high (15.83 per cent) income categories.

Raju et al (1991) in their study "Streamlining Dairy Development in Kerala" revealed that the per capita availability of milk in Kerala increased considerably but the per capita availability of milk was much lower than the minimum required as per the recommendations of ICMR.

Bhople, et al., (1992) in their study concluded that the dairy cooperatives had proved their worth in increasing the income and uplift of socio-economic position of the dairy farmers in the rural social system. The increase in income and investment of income generated from dairy business was to be significantly higher in case of beneficiaries, domesticating both cows and buffaloes.

Dilip Shah (1992) observed that calories and protein intake affected the introduction of the project. Contrary to the fact, the project impact on intake was positive but less.

Jithendra Kumar and Murthy (1992) reported that the income earned from dairying was more by the members of societies than by the non-members. It was found

that the agricultural labour and non-agricultural labour earned more income from dairying than the small farmers who earned more in crop production. The employment created to members (121.5 days in area I and 111.2 days in area II) was significantly more compared to the non-members. (76 days in area I and 53.3 days in area II). The dairy cooperatives have contributed in generating more income and employment to the dairy farmers.

Dayakar Rao, et al., (1994) in their study reported that by and large the growth and performance of dairy cooperatives in the Guntur district was satisfactory. But, in the case of certain parameters, which had recorded low growth rates, concerted efforts ought to be made to achieve higher growth so as to bring about desirable socio-economic change in rural areas through dairy development efforts under the programme.

Chauhan, et al., (1994) in their study based on primary data collected from 100 dairy farmers revealed that despite lower proportion and level of education, women contributed a larger share of labour in agriculture and dairying. Their contribution to the total household income was assessed to be 32 per cent, though, their share was as high as 65 per cent to the farm household income.

Deepak Shah, et al., (1994) revealed in their study that the annual gross income from milk per standard milch animal unit was Rs.5329 in Dudh Utpadak Sahakari Sangh (DUSS) area, while it was less in NDUSS (not covered) area being Rs.4,631. Total gross income including the value of dung was Rs.5,687 and Rs.4,980 in the two areas.

Hema Tripathi and Kunzru (1994) in their study revealed that the consumption of milk by the households in the Non-member Cooperative (NMC) system was more as compared to the households in the Member Cooperative (MC) system. This difference may be attributed to lack of organised marketing facility or less remunerative marketing channels available to the milk producers in the NMC area. A less likely reason which can be attributed to the difference is that milk producers were more conscious about the family nutrition, status although, in any case, this is a natural spill-over benefit of the higher milk consumption behaviour.

Jain and Arvind Raman (1994) in their study revealed that farmers can increase their income by rearing additional dairy and poultry up to their management limits along with crop cultivation. The increase in income would vary from 1.72 per cent on small farms to 4.8 per cent on large farms. This would be possible by increasing milch animals from 2.82 per cent to 4.41 per cent; 3.52 per cent to 6.45 per cent and 4.20 per cent to 9.52 per cent on small, medium and large farms respectively. Therefore, additional adoption of the subsidiary enterprises like poultry and dairy would be a step towards equitable distribution of income in farm sector.

Rajendra Naidu, et al., (1994) in their study reported that the increase in income from dairying was Rs.830 (25.5 per cent) in the case of marginal farmers and Rs.1,480 (22.5 per cent) in the case of small farmers per annum. Dairy income as part of total income formed nearly 45 per cent in the case of marginal farmers and 38 per cent in the case of small farmers. Both marginal and small farmers were able to get new (full-time and part-time) employment opportunities through dairying.

Ravi Kiran, et al , (1994) in their study revealed that a random sample of 88 farmers owning cows was considered for collection of information The results showed that dairy farming formed the main occupation for 3 41 per cent of farmers. Dairying contributed to 36.14 per cent of the total income of the farmers Out of the total milk produced, 95.20 per cent was supplied to the village milk producers' cooperative societies and the rest was utilised for family consumption

Thirunavukkarasu, et al., (1994) inferred from their study that "Operation Flood" was found to have enhanced the income and employment of its beneficiaries through its promising schemes, in turn increasing the dietary intake among them. By telling upon these vital factors of rural life positively "Operation Flood" seemed to have reduced the incidence of poverty among the rural beneficiaries.

Vijay Paul Sharma, et al., (1994) revealed in their study that per capita per day milk consumption on the selected households in the project area was 466 grams i e., 186 per cent more than the recommended nutritional standards. Such higher milk consumption may be in excess (self-consumption or forced consumption to avoid distress sales, due to inadequate and unremunerative milk marketing system).

Dayakar Rao, et al., (1995) in their study revealed that an increase of 36 per cent in human labour utilisation on the beneficiary households over non-beneficiary households reflected the esteemed impact of the Operation Flood Programme. Further, the positive net income was observed on the beneficiary households as compared to the negative net returns from the non-beneficiary households. A composition of shares of different enterprises revealed that the relative share of dairy farming sub-system was

about 27 per cent to the total farm household income on the beneficiary households as against 20 per cent on the non-beneficiary households.

Rao and Singh (1995) in their study revealed that the beneficiary households obtained an average net income of about Rs 1,512 as against Rs. 308 by the non-beneficiary households. The net income obtained by the beneficiary households was positive and higher than that of the non-beneficiary households due to various facilities and services provided by the dairy cooperatives in the study area.

Sangu (1995) in his study revealed that the herd size, milk production per animal, per capita milk consumption and monthly income of the selected households were more in member milk producers as compared to the non-member milk producers. Among the producers per capita consumption was higher in the large farmers category while their contribution to the total production and marketed surplus of milk of sample households was low in both the groups.

#### ***Benefits Derived by the Members from Milk Producers' Cooperative Societies***

Agro-economic Research Centre for Gujarat and Rajasthan (1968) revealed that the small farmers with low income benefited largely from the newly started village milk producers' cooperative society, earning Rs.2,022 as profit with a share capital of Rs.2,080 in three months.

Vyas and Jodha (1973) in their study of the contribution of dairying to rural economy had considered dairying as one of the activities which could supplement the income of farmers in the rural areas. Kunwar, et al., (1975) indicated that the gross

income per milk animal per annum for cooperative farmers was Rs. 835 which in the case of private milk sellers was Rs. 189 only.

The results of the study by Raut and Shivtar Singh (1975) showed that the milk producers who supplied milk to organised dairy had high milk production, lower cost of production and thereby high returns from sale of milk as compared to those who sold milk either to middlemen or directly to consumers. They further reported that on an average the number of animals owned by the members of the cooperatives were high when compared to the non-members.

Thakur (1975) summarised that the milk producers sold their surplus milk twice a day directly through their milk cooperatives in their own villages and got paid for it every day or as decided by them. He observed that the milk cooperatives provided many facilities in the villages which directly and indirectly helped the milk producers in improving their economic conditions. In addition to the provision of technical inputs for milk production enhancement, the milk cooperatives also provide funds for the development of other facilities like roads, water supply, school and other organisations, electrification and telephone connections, etc., in the villages. Besides, they buy as much quantity of milk from the milk producers in the villages as they want to sell depending upon their cash requirements and marketable surplus of milk. In this way, it has been possible for the villagers to earn sufficient income from dairying every year. He further pointed out that the villages with milk cooperatives were superior to the villages with no milk cooperatives in terms of the use of improved agricultural inputs and total income.

National Dairy Development Board (NDDB), Anand (1977) reported that the formation of milk cooperatives on the Anand pattern had shown that dairying is an effective instrument in tackling rural poverty, unemployment and under-employment and for improving the economic and social conditions of weaker sections

Patel, et al , (1977) inferred that the milk cooperatives were instrumental in increasing income of the milk producers through dairying. The milk cooperatives were considered to be highly advantageous especially to the weaker sections like the landless and small farmers in the villages and they could maintain themselves and their families with the income generated by keeping one or two buffaloes.

Koli (1979) stated that dairying was a subsidiary occupation for the village farming community with a view to improve the potentialities of gainful employment and to ensure regular supplementary income to the small and marginal farmers and agricultural labourers in rural areas. Analysing the impact of milk cooperatives on the economic and social conditions of villagers, he found that most of the milk producers in the village kept generally one or two milk animals, preferably buffaloes

Khatik and Kulkarni (1981) studied different aspects of members of cooperative societies in two periods of time i.e., during the years 1974-75 and 1978-79 such as average number of animals, family size, milk production, consumption and marketed surplus of milk. All aspects, except family size, showed an increased tendency in all categories of producers within the span of five years. The proportion of local cows declined and number of cross-breed cows and local buffaloes showed an increasing tendency.

Rao (1981) conducted a survey of 400 households owning cattle in 20 villages in Andhra Pradesh covered under the milk chilling centres of a milk project and the results indicated that the amount of time spent on dairy farming and the income from it increased as a result of the project. The increase in income was attributed to eradication of middle men (42.00 per cent), existence of milk project on cooperative line (21 per cent) and higher procurement (15 per cent).

Duhun and Singh (1982) reported that the major objective of the village level cooperatives in the Haryana State was to help their members to increase milk production by providing veterinary services, cattle feed, IIYU fodder seeds, etc., on subsidised rates.

Rai and Rajagopalacharan (1982) reported that the "Kaira District Cooperative Milk Union" and its affiliated cooperative societies, apart from encouraging to produce larger quantity of milk, aimed at improving the economic conditions of producers, especially those belonging to the weaker sections in the rural areas. The milk producers' cooperative societies had provided a source of periodic cash income to milk producers. They had also spent a considerable amount on developmental activities and medical care.

Rao (1982) in his study of farmers' benefits from modern milk cooperative society in Andhra Pradesh observed that at the village level, primary societies of milk producers had been organised with the main responsibility of collecting milk from the producer members and providing inputs required for milk production such as balanced cattle feed, veterinary first aid, artificial insemination etc.

Mergos and Slade (1987) conducted a study on Operation Flood in Madhya Pradesh and the results of the analysis established that the project improved the milk marketing system, thereby increasing competition, so that average price of milk rose about eight per cent, milk production about 17 per cent and the consumption of milk was increased slightly about two per cent on an average over a five year period

Patel (1987) reported that on the whole, dairy villages possessed more general facilities as compared to the control villages and none of the control villages got veterinary aid centres and high schools. The gross income of milk producer per milch animal was significantly higher in dairy villages (Rs 1,308) than that of the control villages (Rs 840). Further, the study revealed that out of 300 milk producers surveyed, 274 producers had opined that the cooperatives were the best outlets for milk disposal.

According to him most of the milk producers in dairy villages felt that the following facilities provided by the milk producers' cooperative societies offered tangible and intangible advantages to them. Those facilities were (1) guarantee to accept the surplus milk in all the seasons, (2) pre-determined declared prices of milk, (3) proper measurement of quantity and quality of milk, (4) no discrimination or preferential treatment or injustice to the individual milk supplier, (5) supply of free services like artificial insemination, veterinary aid and advise on proper care of milch animals, (6) supply of production inputs like cattle feed, lucerne seed, etc., at reasonable prices, and (7) other indirect services like development of infrastructure, village organisation, etc.

The study conducted by Chahal and Gill (1988) indicated that the setting up of cooperative milk plants opened new employment opportunities and increased the income from livestock. Artificial insemination facilities became more common. Free and regularly available veterinary services had made farmers aware of improved animal health.

Sinha and Rama Murthy (1988) observed in their study that benefits got from the dairy cooperatives included marketing of milk, fair price, supply of dairy inputs, exchange of information, regular income, social status, incentives and loans. Most of the farmers were in slight benefit category in all of the items. 70 per cent of the members got medium level of benefits. Those who got benefits were associated with the length of membership. Those who were members for more than 10 years had got better benefits than the other categories; 48.15 per cent of them had got more benefits compared to just 5 per cent in other categories. However, members within 5 years were better compared to the members from 6-10 years, 31.82 per cent of members from 6-10 years were at low benefits category.

Inamke, et al., (1989) studied various benefits provided to the members of Milk Producers' Cooperative Societies such as milk collection and sale, cattle feed supply, loan to members, veterinary aid, etc. This study revealed that these societies provided regular market for the milk, supplied cattle feed to members worth of Rs.257, Rs.64 and Rs.76 per month to each member by large, medium and small sized cooperative societies respectively and members of small and large sized societies obtained Rs.6,000 and Rs. 11,230 as a loan respectively. It was observed that only large sized societies provided veterinary aid by arranging the camps.

Thomas, et al., (1995) in their study reported farmers' satisfaction in enjoying the provision of the service of concentrate feed through the societies. It shows that the aggregate level of satisfaction was negative. In fact, the farmers were satisfied to a considerable extent on three of the factors (price of feed, mode of collecting payment and attitude of societies staff) but on all other factors (feed availability, choice of preferred brand, quality of feed, convenience of supply time, and supply in convenient quantity) they were dissatisfied in varying degrees. Sincere and concerted efforts from the part of societies seem to be missing to attract farmers to such services.

### *Entrepreneurial Characteristics of the Members of Milk Producers' Cooperative Societies*

McClelland (1961) established that "achievement motivation" is a potent factor for entrepreneurship. Indian Studies had also established the fact that achievement motivation contributes to a great extent in helping the people to become entrepreneurs. Those people could be termed as entrepreneurs who had a high drive and high activity level, constantly struggling to achieve which they could call as their own accomplishment. They might easily be differentiated from others on the ground that they strive to accomplish those which are not otherwise very easy to achieve. However, they do not try to achieve something which is rather practically impossible. Highly surcharged with achievement motivation, they work for quite long hours. It had also been found that highly motivated entrepreneurs had acquired an awareness of their own strengths and weaknesses; at the same time they had knowledge of the facilitating factors and constraints prevailing in the environment.

Neill and Rogers (1963) postulated that farmers' achievement motivation leads to their individual excellence in farming. Epstein (1967) identified high education contacts with various people, innovation and enterprising cultivation by adoption of improved practices in farming as characteristics of entrepreneur farming.

Javillionar and Peters (1973) concluded that achievement might help one to become an entrepreneur but need not be the only factor in making him a successful one. They had further suggested that 'n' achievement might lead one into the parlours of entrepreneurship but might not be adequate to contribute to one's success. In other words, it could be said that an entrepreneur and successful manager might not have the same motive attitude and skills. To put it differently, for both of them different types of qualities are required. An entrepreneur to be successful, is required to play the role of a manager. In other words, an entrepreneurial manager requires not so much of a concern for excellence as a need to influence and lead others. Recent studies have suggested that an entrepreneurial manager should have a high need for influencing others, a low need for establishing emotional relationship and a high capacity to discipline one's own self. Such drive to influence people and to lead them to implement their ideas might be called as 'need for power'.

Joshi and Kapur (1973) emphasised that managing a farm was a continuous process of decision-making. Successful farm management requires the ability and capacity on the part of the farmers not only to make decisions, but also to make correct decisions.

Samantha (1977) defined management orientation as the degree to which a farmer is oriented towards scientific management comprising planning, production, and marketing functions in his farm, and Sharma (1980) observed that entrepreneurs were very mobile

Nandapukar (1982) has reported that innovativeness has taken second position in explaining the variance of the entrepreneurial behaviour of small farmers. Prasad (1983) observed that self-confidence had taken fourth place in explaining the variance of achievement motivation of rice farmers and Gopala Krishnaiah (1984) inferred that majority of dairy farmers belonged to medium level of economic motivation.

Gopalakrishna Rao (1985) observed that the factor innovativeness operated as an all pervasive variable acting independently, directly, and indirectly on farming performance. It was one of the major focus variables through which many other variables influenced the farming performance considerably. Majority of the farmers (84 per cent) had moderate decision-making ability.

Nagabrahmam (1987) reported that with the advent of dairy cooperatives at the village level, office-bearers and members alike who were not necessarily from large and rich groups of the village had started 'demanding' things rather than 'accepting' whatever was being offered. The initial platform was the milk cooperative wherein the women could show leadership qualities and managerial acumen.

Vinze (1987) reported that the characteristics of an entrepreneur represent a special type of person and everybody cannot become an entrepreneur. But this impression does not give a hundred per cent correct picture of entrepreneurship. Nevertheless, an entrepreneur would certainly be different from the non-entrepreneur in terms of his/her psychological and social dispositions. However, one need not have all these characteristics together. This never means that an entrepreneur cannot be successful without some of these characteristics. Without possessing many of these characteristics, an entrepreneur with strong creative activities may succeed.

With regard to characteristics of entrepreneurs, certain generalisations could, however, be made. Certain characteristics of entrepreneurship might be developed in an individual by way of psychological education. Secondly, presence of these traits increases the probability of an entrepreneur emerging out successful. About five characteristics were identified in all. Some of the significant ones were (a) need for influencing others, (b) sense of efficiency, (c) risk taking, (d) openness to feedback, (e) learning from experiences, (f) need for independence, (g) hope of success, (h) competition and collaboration, (i) flexible authority relationship, (j) concern of society, (k) social consciousness, (l) dignity of labour, and (m) saving for future.

Hoop et al, (1988) reported that most of the dairy farmers had high decision-making ability while considering milk production forecasts and day-to-day planning and monitoring.

The results of Gopala Krishnaiah and Pochaiah (1989) reported that 47 per cent of the respondents belonged to high risk taking ability category and they were followed by medium and low risk taking categories. It is an indication for the ability of respondents in carrying out the dairy enterprise.

Mahipal and Kherde (1989) in their study in the operational research project villages of National Dairy Research Institute, Karnal reported that majority of the dairy farmers had high economic motivation

Surgeon (1989) reported that 67.58 per cent of small farmers, 77.5 per cent of medium farmers, 55 per cent of large farmers had medium achievement motivation 55 per cent of small farmers and 72.5 per cent of medium farmers had medium self-confidence, while 47.5 per cent of large farmers high self-confidence 60 per cent of small farmers had low management orientation and 90 per cent of medium farmers and 57.5 per cent of large farmers medium management orientation

Goud (1990) in his study found that majority of the farmers (67.8 per cent) had medium innovativeness and 17.8 per cent had high innovativeness, while 14.4 per cent low innovativeness. Majority of the farmers (45.51 per cent) had medium rational decision-making ability.

Sivanarayana (1990) found that little more than three-fourths (77 per cent) of the respondents had medium level of achievement motivation, 13.33 per cent low and 9.17 per cent high level of achievement motivation. Balabhaskar (1991) reported that majority of the respondents (72.0 per cent) had medium level of economic motivation. Raju (1991) revealed in his study that majority of the respondents had medium innovativeness. Reddy (1991) revealed that 75 per cent of sericulture farmers had medium market orientation, 18 per cent low and 7 per cent high market orientation.

Raja Reddy (1992) in his study found that majority of the farmers (61%) had medium level of achievement motivation, whereas 21 per cent and 18 per cent high and low achievement motivation respectively

Sastry and Raju (1992) reported that in Guntur and Krishna Districts of Andhra Pradesh 58 to 66 per cent of cross-breed cattle keepers and small and marginal farmers had medium innovativeness. This innovative nature may be attributed to the progressive nature of these farmers as they were also reasonably successful. About 55 per cent of cross-breed cattle keepers of Krishna District of Andhra Pradesh had medium information seeking behaviour. This may be due to their awareness about advantages of cross-breed cows as well as the wish to do better in the dairy business

Tripathi and Kunzru (1992) in their study revealed that women belonging to dairy cooperative system had higher innovation proneness and risk orientation to adopt dairy farm innovations. Scores for management orientation, risk orientation, level of aspiration as well as orientation towards competition were also found to be significantly higher among women members of dairy cooperative system.

Raghupathi Reddy (1993) indicated that majority (65.83 per cent) of pigeon growers had medium economic orientation, 20 per cent and 14.17 per cent low and high economic orientation. Rao (1993) reported that majority (60.00 per cent) of dairy farmers had medium innovativeness.

Shreesailaja and Veerabhadraiah (1993) in their study found that about 57 per cent of them had 5 to 10 years of experience in dairying. A great majority of the dairy

farm women had low social participation, high urban contact and medium extension. A majority of them (87 per cent) had low extension participation. Fifty five per cent of the dairy farm women had medium mass media participation. Forty eight per cent had medium innovation proneness and 63 per cent low achievement motivation. A large majority of farm women took decisions on their own in respect of taking care of animals and fixing the time for milking. Other decisions were taken by husbands alone and a few joint decisions on aspects such as selection of the breed, selling of the produce and spending pattern of income.

Chauhan, et al., (1994) in their study revealed that 10 per cent of the women were found in high, 76 per cent in medium and 14 per cent in low participation group of decision-making and performing dairy activities. Out of 108 maximum score, the high participation group attained score between 64 to 70 and the medium and low participation groups between 56 to 63 and 53 to 55 respectively. They concluded that the women had varying degrees of participation in various decision-making and performing dairy activities.

### *The Problems Faced and Solutions for Effective Functioning of Milk Producers' Cooperative Societies*

Sharma, et al., (1974) recognised that the effective system of procurement is through cooperative societies which ensure milk producers involvement in production and marketing activities to provide the link between production and marketing. All the necessary inputs like loans for the purchase of animals, loans for meeting day-to-day expenditure of the producers and the supply of fodder and feeds through the cooperative societies should be intensified.

Garg and Prasad (1975) reported that in the case of the producers, they did not show response to part with their produce to the Milk Board due to delay in payments. They preferred to sell their milk to the local milk hawkers who advanced money to them and make a part payment for their milk supply frequently at the same or higher rate than the charged by the Milk Board.

Sinha, et al., (1980) summarised that the AMUL societies had expressed problems like shortage of milk cans, fluctuation of local milk prices, poor veterinary aid and training to the farmers. The problem coverage in AMUL and non-AMUL type societies seemed to be the same in areas like finance, artificial insemination facilities and supply of feed and fodder.

Sandhu (1981) suggested that timely payment of correct milk price to milk producers and use of proper milk measures listing appliances and chemicals to ensure that individuals milk is correctly measured and properly tested as measures to ensure economic viability to primary milk cooperatives.

Ranga Rao (1982) reported that the problems perceived by milk producers were low price for milk per litre and inadequate supply of feed and fodder, and inadequate provision of loans for purchase of milch cattle. Most of the members of milk cooperative societies suggested that the price for milk should be increased.

Sharma and Singh (1984) observed in their study that the village does not have adequate infrastructure and other facilities for marketing support. The village also does not have veterinary doctors. Insufficient green fodder and the abnormal cost of

concentrates hamper the yield rates. The general indebtedness of the farmers, the larger consumption expenditure, the prohibitive high costs of maintenance of animals which render dairying uneconomical inhibit the growth of dairying.

Vithal (1986) reported that the major factors affecting the working of the cooperative milk supply societies are factions in the village, caste dominance, practice of 'proxy', acute water and fodder problem, high mortality of milch animals, lack of proper transport facilities, menace of vendors, lack of adequate staff and trained personnel, ignorance of avocations, and lack of adequate infrastructure. He made the following suggestions that the officials should be cautious in the selection and appointment of secretaries and more credibility should be given for human attributes like honesty and integrity of the individuals. Vocational training should be imparted. Strengthen the back-up support facilities and supplement many other programmes. He further suggested that distribution of concentrates and mineral mixtures through the societies should be made more effective. The avocations and individual preferences should be taken note of in grounding the schemes. The dairy should arrange proper transport facilities to all the societies including those situated in the interior villages to mitigate the hardships of the milk producers vis-a-vis to boost-up the milk procurement. The dairy should ensure supporting price to milk producers by taking into account the cost effects of milk production and various constraints meted out to them. The cooperative milk supply society should serve as a linkage between the members on one hand (and the D.P.A.P.) and the dairy on the other. It should be a co-ordinating agency.

Jena (1988) listed problems faced by the respondents such as more doctor consultation charges, distant location of dispensary/hospital, badly equipped local hospital, exploitation of private doctors and lack of money. All these factors impinge upon the farmers' participation in development process which needs to be tackled at policy level. The suggestions made by the respondents to improve situations include, doctors service should be available free of cost and doctors should visit regularly and veterinary services should be made available at minimum travel distance from any village implying that the number of dispensaries should be increased. Infrastructure for veterinary services in the study area is adequate. What is actually required is that there should be proper co-ordination and planning of activities to be performed by government veterinary staff, extension officer, and the animal husbandry staff of the dairy in order to obviate the problems. There are difficulties in marketing of milk. The main problems are low price of milk, inadequate transport of milk, improper mode of payment to the farmers, improper advise and information. Certain suggestions made by the farmers include the increase in the milk price, weekly payment, passing of milk collecting van through villages, adequate cattle feed and concentrates to be supplied through cooperative societies and roads to be constructed to minimise the transport cost.

Gopala Krishnaiah and Pochaiah (1989) showed that the problems faced by milk producers are low price for milk per litre, inadequate supply of feed and fodder, delay in payment of cost of milk and no provision of loans for purchase of milk animals. Based on their problems respondents were also asked to suggest the measures for effective functioning of milk cooperative societies. They include the increase in the price of milk per litre and prompt payment, organising training programmes for

members, provision of loans for purchase of milk cattle, prompt and assured veterinary services and adequate supply of feed and fodder.

Jyothi Rani and Prabhakar (1990) reported that the main problem of the sample recipients has been the fodder for milch animals. The DRDA usually supplies cross-breed animals which do not adjust to the feeding material available with them. In some cases, the animals die which, in fact, is a heavy loss to the beneficiaries. However, the villagers have unitedly approached the Government for a veterinary hospital to solve the health problems of their animals. Another problem of these animals is that they require more food than the local animal. The problem is more serious for marginal farmers who with their less landholdings are unable to provide more food for the animals.

Sreen, et al., (1992) identified the constraints faced by women dairy farmers and strategies to overcome them. The major constraints include poor health, nutrition and productivity of milch animals, limited training opportunities for women dairy farmers and inadequate institutional support to programmes and producers. To help women overcome these constraints training is needed for all milk producers in basic dairy management and animal care, in fodder production, in health care including AI, in cooperative management, including book keeping. Specially designed short-term training programmes should be offered to all new members and reinforced periodically. Further, training alone is not enough, it must be coupled with material inputs and services to be dealt effectively with the problems of animal health and productivity and inadequate institutional policies.

The findings of the study conducted by Kowshik, et al , (1992) reveal that women members of dairy cooperative society face severe problems in the fields of education and communication. The findings thus forcefully point towards the lacuna in the existing policies It is, therefore, suggested that the training programmes related to progressive dairy farming technologies may be organised for the women beneficiaries The women members also need to be made aware of existing subsidies and other benefits provided by the government Mass media, especially Doordarshan and field workers can play an effective role in this direction

Thirunavakkarasu, et al., (1992) listed constraints faced by the beneficiaries of Operation Flood They include poor quality of the feed supplied by the State Milk Producers' Federation, very low procurement price for milk, problems in making the milch animals conceive, higher mortality in cross-breed calves, pricing of milk on fat content, inadequate financial assistance for buying milch animals and inadequate veterinary service

Sharma (1994) listed constraints perceived by farmers in availing themselves of the services and facilities being made available to them through milk cooperative societies for milk marketing Very serious constraints include-purchase of milk by societies on fat percentages basis and no consideration of SNF, non-existence of milk cooperative societies in the villages, problems of transport of milk to the societies situated at distant places. Serious constraints comprise non provision of incentives by cooperative societies, ignorance of the necessity of obtaining health certificate from veterinarian for the animals to be sold or purchased, ignorance of the importance of keeping record of milk sold, ease of selling milk to middle men who besides collecting

milk from door steps also provide incentives in the form of advance payment, lack of interest in selling milk through cooperative societies, etc. Measures for overcoming the constraints have been suggested, viz., the milk cooperative societies need to be set up in all the villages to avoid middle men; the prices should be so fixed that the producers continue to sustain their interest in selling milk to the cooperative societies rather than to the middle men; cooperative societies should arrange loans, provide incentives to the producers for the purchase of milch animals, inputs, etc., on easy terms and conditions. The functioning of the milk cooperative societies should be properly monitored and evaluated regularly. In tackling the problems of the societies, local people, particularly leaders in the village must be consulted and taken into confidence before taking decisions on policy issues.

Yadav, et al., (1995) reported that the weak financial status, cost factor and management difficulties were the main constraints in not maintaining good quality animals on the farming. The respondent farm families strongly expressed the need for finance for the purchase of milch animals and also for feed and fodder. They opined that good quality feed and fodder should be made available to them at reasonable rates and that they need to be assured reasonable and stable prices for milk throughout the year to make the dairy enterprise as a supplementary and paying proposition.

The review revealed a list of constraints faced by the milk producers, in particular women, such as, poor health, nutrition and productivity of milch animals, limited training opportunities for women dairy farmers and inadequate institutional support to programmes and producers, non-existence of milk cooperative societies in some of the villages, problems of transport of milk to the societies, ease of selling milk

to middlemen, incentives in the form of advance payment, lack of interest in selling milk through cooperative societies, pricing of milk on fat content, higher mortality in cross-breed calves, inadequate financial assistance to buy milch animals, good quality feed and fodder and inadequate veterinary service, while carrying out dairy enterprise.

Ideally, cooperatives are appropriate mechanisms to increase production and help utilisation of under utilised resources in bringing about equality of opportunity. Although they have not always been successful experiments, certain initiatives in the recent times show that with full participation of share holders and appropriate grass root management techniques, such ventures could succeed. All Women Milk Producers' Cooperative Societies have proved that cooperatives could serve as a viable alternative in addressing the social and economic needs of the poor women.

Against this background, it is proposed to study the women dairy cooperatives at the grass root level and identify the better performance correlates of women dairy enterprise and its impact on family and status of women milk producers.

## CHAPTER 3

## *Research Design*

The present study of Women Dairy Cooperatives, essentially exploratory in nature, is one of the few studies undertaken in the area of Women Dairy Entrepreneurship. In pursuance of set objectives of the study stated in the first Chapter, Chandragiri Mandal of Chittoor District in Andhra Pradesh was selected as study area. All the member milk producers of women dairy cooperatives in Chandragiri Mandal constituted the universe of the study. This study area was selected in consultation with the Chittoor District Cooperative Milk Producers' Union. Chittoor District was purposefully selected as it ranks first in milk procurement (69 36 crores kg.) in Andhra Pradesh besides having the highest number of All Women Milk Producers' Cooperative Societies (Appendix F: Table 1). Out of 110 registered All Women Milk Producers Cooperative Societies (AWMPCS) in the district, 109 were organised under Chittoor Milk Chilling Centre area (Brief Note, Chittoor District Milk Producers Union: 1993-94).

Further, it was decided to carry out the investigation in Chandragiri Mandal mainly for the following reasons : (i) Chandragiri Mandal of Chittoor Milk Centre was ranked first in number of AWMPCS. (ii) Out of 109 Women Milk Producers' Cooperative Societies, 20 were organised in Chandragiri Mandal. (iii) Chandragiri Mandal is very near to Tirupati which is one of the principal towns of Chittoor District and is also located near Sri Padmavathi Mahila Visvavidyalayam from where the researcher had to carry out her research. (iv) The Investigator was quite familiar with the study area, i.e., Chandragiri and its surrounding villages which facilitated her to

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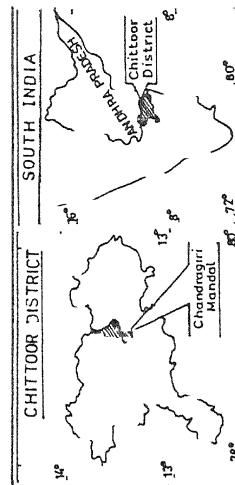
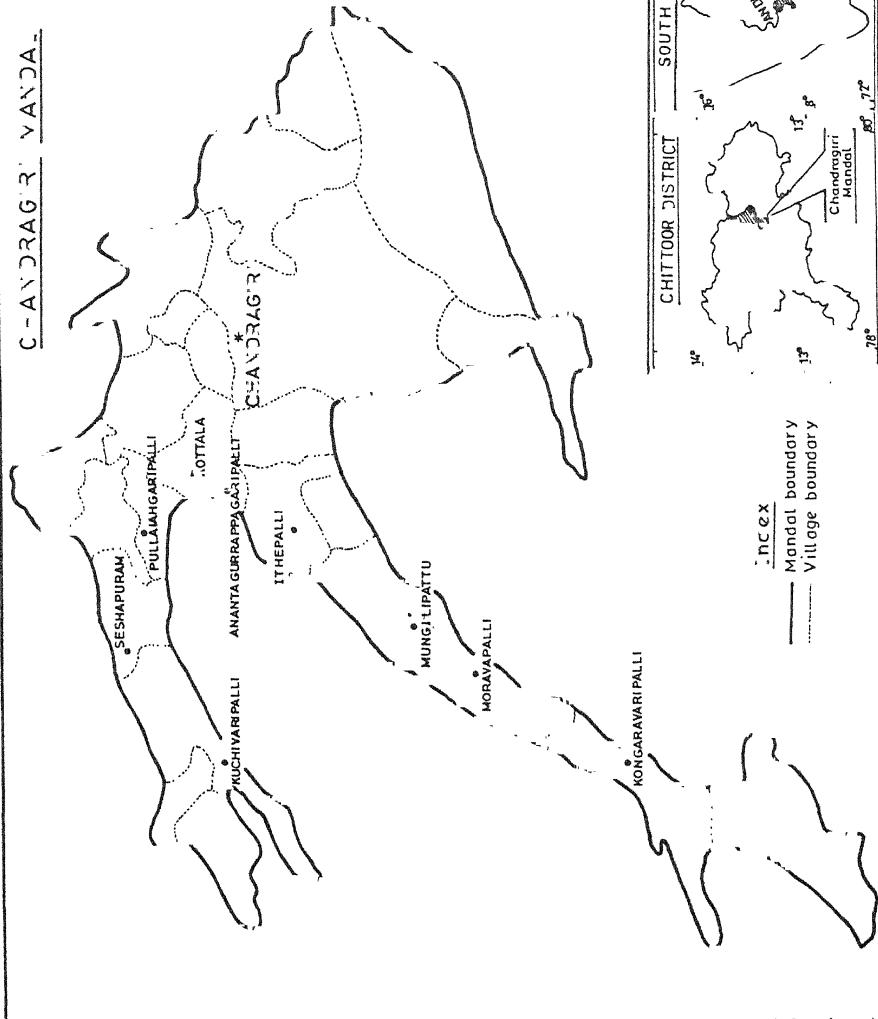


Figure 2. Samc.e location v

establish quick rapport with the respondents for correct probing and accurate information. Ex-post facto research design was used for conducting the study.

### *Sample and Selection of the Respondents*

**Selection of AWMPCS.** The list of societies (AWMPCS) along with the average one year milk procurement per day and the members were collected in Chandragiri Mandal (Appendix F:Table 2). The list was arranged in descending order of milk procurement and 9 societies out of 20 AWMPCS, viz., Mungilipattu, Kottala, Ithepalle, Kongaravaripalli, Ananthagurappagaripalli, Seshapuram, Moravapalli, A.Pullaiahgaripalli and Kuchivaripalli, whose milk procurement was more than 100 ltrs / day were selected at random. The location of these societies in 9 villages is shown in Figure 2.

**Selection of Women Milk Producers.** The sample of 150 women milk producers were chosen as respondents for the present study using Proportionate Random Sampling, proportionate in relation to the total women milk producers in each sample society. Table 3 shows the sample of 150 women milk producers of AWMPCS scattered in 9 villages, namely, Mungilipattu (N 29), Kottala (N 17), Ithepalli (N 23), Kongaravaripalli (N 19), Ananthagurappagaripalli (N 12), Seshapuram (N 10), Moravapalli (N 10), A.Pullaiahgaripalli (N 20), Kuchivaripalli (N 10). The selected 9 societies constituted 45 per cent of the total All Women Milk Producers' Cooperative Societies and the selected milk producers (150) constituted

Table 3

## Size of Sample

Number of AWMPCS in Chandragiri Mandal	Name of the Village where sample societies situated	Average Milk Procure- ment per annum/ day (in ltrs.)	Number of Members in AWMPCS		Sample women milk producers	
			Actual Members	Actual Producers		
Actual	Sample					
20	9	Mungilipattu	260.00	103	77	29
		Kottala	210.00	190	45	17
		Itthepalli	200.00	105	63	23
		Kongaravaripalli	180.00	87	52	19
		Ananthagurrapagaripalli	180.00	66	33	12
		Seshapuram	161.90	78	28	10
		Moravapalli	140.00	39	27	10
		A. Pullaiahgaripalli	130.60	50	54	20
		Kuchivaripalli	114.40	53	26	10
20	9		1576.90	771	405	150

Source: Records(1993-94), The Chittoor District Cooperative Milk Producers Union Limited, Andhra Pradesh

37 per cent of the actual member milk producers of AWMPCS in Chandragiri Mandal which from the statistical point of view was considered adequate to represent a Mandal. In addition to the 150 women milk producers the Presidents/Directors (9), one from each of AWMPCS also constituted the sample.

The sample for the study on SES, awareness and attitudes towards AWMPCS, resource-support system, dairy income, exposure to modern influences, entrepreneurial attributes, impact on family and status of women consists of 150 member women milk producers who engaged in dairy enterprise in Chandragiri Mandal of Chittoor District.

### ***Research Tools***

Depth interviews, participant observation and interview schedules were the tools used. These tools yielded quantitative and qualitative information in this study. The interview schedules for women milk producers constituted the following:

1. Interview schedule for respondents to measure the working pattern and support services of AWMPCS;
2. Socio-economic Status scale (rural) ;
3. Interview schedule for the women milk producers to measure awareness, attitudes, exposure to modern influences, resource support system, impact of dairy enterprise on family and status of women; and
4. Self-perceived entrepreneurial attributes scale.

The interview schedules were pre-tested before they were administered to the respondents. Ambiguous questions were avoided and care was taken to eliminate the questions which did not evoke proper response. Thus the interview schedules were modified to suit the target group.

### ***Method of Data Collection***

For *establishing rapport* a pilot visit to the Chittoor District Cooperative Milk Producers Union to ascertain the feasibility of the study was undertaken, and it resulted in establishing good rapport with the officials and women extension supervisors of Chittoor Union. In order to establish necessary rapport with the respondents, initial period of investigation was devoted to get acquaintance with the local leaders like Sarpanch, Presidents of AWMPCS and also the staff of Animal Husbandry Department. Informal home visits were made by the investigator to gain

the confidence and create enthusiasm among the respondents. Further, it was made clear to them that the study was purely academic in nature and promised to keep the data confidential.

The *data were collected* from the 150 women milk producers through interview method as the largest number of them were illiterates. The respondents were interviewed in their mother tongue (Telugu). Besides the data collected from the sample women milk producers, the Investigator had long conversations with the members of their families and also with the others who threw some light on certain aspects of the problem. Along with these two primary sources, the secondary data were collected from the Manager and his team of Extension Officers, Cooperative Milk Producers Union, Chittoor, Small Industries Extension Training Institute, National Institute of Rural Development, Hyderabad and Andhra Pradesh Agricultural University and S.P. Mahila Visvavidyalayam, Tirupati.

### *Measures of Variables*

#### *Description of Interview Schedule to Measure the Working Pattern and Support Services of All Women Milk Producers Cooperative Societies*

The interview schedule was designed to measure the working pattern and support services of AWMPCS covering various aspects of the society, namely, location and area of operation, membership pattern, management and staff pattern, details of the meetings, herd size, milk production, list of records, equipment, and services rendered by the society to the members. While preparing the schedule the reports of the Chittoor District Cooperative Milk Producers Union and the Annual

Reports of National Dairy Development Corporation were consulted. The schedule was field tested and suitably modified to suit the target societies.

The schedule consisted of 10 items and among them 1 to 9 items were open-end questions on working pattern of AWMPCS for which, frequencies and percentages were calculated. The 10th item was on support services and it consisted of 15 sub-questions which were dichotomous in nature and had to be answered in terms of 'Yes/No'. Score '1' was given for each positive answer and '0' for each negative answer. Mean score was calculated for the summation of these items and the results were perceived in the way that the higher the Mean score the greater would be the services rendered by the AWMPCS to the members. The schedule was administered to the President/Directors (9) of the sample AWMPCS (one from each society) and the information was elicited on the working pattern and support services of AWMPCS to serve as a background information for the present study of women dairy cooperatives and the impact of dairy enterprise on family and status of women.

#### *Description of Socio-economic Status Scale*

The interview schedule was used to measure the socio-economic status of the women milk producers comprising 12 items. The items 1-9, namely, caste, occupation, education, social participation, land, house, farm power, material possession, family type and size were directly adopted from Udaipareek and Trivedi's (1964) "Manual of the Socio-economic Status Scale (Rural)" with slight modification. Among them the first 7 items were of graded scale type. Each item was scaled from the lowest to the highest and the subsequent two items (8 and 9) were additive in nature. This scale was adopted because it had been carefully constructed, reliability and validity were found

out. Items 10-12 were open-end questions added by the researcher in order to elicit detailed information on income, liabilities, and savings. This scale was administered to 150 women milk producers and the information was elicited.

On socio-economic status scale the first 9 items were scored on a 6 point scale (1-2-3-4-5-6) and the total score of 54 for all the nine items was calculated, which indicates the respondent's overall socio-economic status. The respondents whose score was in the range of 43 and above fell into the category of 'upper class', 33-42 'upper middle class', 24-32 'middle class', 13-23 'lower middle class', and below 13 'lower class'. Frequencies and percentages for all the 12 items were also found to determine the association between the background variables and other variables of the study.

***Description of Interview Schedule to Measure Awareness, Attitudes, Exposure to Modern Influences, Resource-support System, Dairy Income, and Impact on Family and Status of Women***

Interview schedule was designed by the Investigator, covering awareness, attitudes toward AWMPCS, exposure to modern influences, resource-support system, milk yield and dairy income, impact on family and status of women. The schedule was developed in consultation with the literature available on dairy enterprise. It includes the Annual Reports of NIDDB, Records of Chittoor District Milk Producers' Co-operative Union and the Un-published Ph.D. thesis of Gopala Krishna (APAU:1984). The schedule was field tested and suitably modified to suit the target societies.

The schedule consisted of 87 items with 128 sub-questions. Out of them 120 questions were dichotomous in nature and to be answered in terms of 'Yes/No',

'Allowed/Not Allowed', 19 questions to be answered on 3 point scale in terms of 'Regularly/Occasionally/Not at all', 'Always/Sometimes/Never' and 25 questions on 5 point scale, to be answered in terms of 'Strongly Agree/Agree/Undecided/Disagree/Strongly disagree', to be answered in terms of 'Extremely satisfied/Satisfied/Mixed/Dissatisfied/Extremely dissatisfied', 'Wife always/Jointly by husband and wife/Husband/Mother-in-law/Father-in-law and others, and the remaining 51 questions were open-ended. The schedule was administered to the 150 women milk producers, and their awareness, attitudes, exposure to modern influences, dairy enterprise and its impact on family and status of women were measured.

*Awareness* was operationalised as the knowledge of the member women milk producers on several aspects of AWMPCS. The items on Awareness were scored favourableness on dichotomous scale (1-0), score '1' was given for each positive answer, and '0' for each negative answer. The items on 3 point scale (3-2-1) were scored for favourableness (by person and name the item gets 3; 'by person' -2; 'by name' -1). The favourableness was conceived for in terms of their knowledge of AWMPCS, membership pattern, principles, by-laws and functions, meetings and elections, inputs and services, and advantages of AWMPCS. An attempt was made to cluster some of the items which were related and the total score was calculated. Mean scores and SDs were used for the purpose of comparison between the SES groups. Frequencies and percentages were found for the open-end questions. The higher the Mean score the greater was favourableness of response. Test of significance for Mean differences was also calculated (t - value, F-ratio). An attempt was also made to apply the  $\chi^2$  test for testing the association between awareness and the background variables like age, education, social participation, land holding, caste, occupation, farm power,

type of family, size of family and SES. Yates corrections were made while determining the association where the cell value was less than 5. In order to determine the combined effect of all the selected variables, Multiple Linear Regression Analysis was carried out.

*Attitudes* for the study were operationalised as the degree of either positive or negative feeling of an individual towards the functioning of AWMPCS. In the present study the attitudes of the women milk producers towards AWMPCS were measured with the help of the attitudes scale developed by Ranga Rao (Gopalakrishna: 1984). This scale comprised 12 statements presented in the format of Likert's type on 5-point continuum, i.e., the positive statement 'Strongly Agree' gets 5, Agree-4, Undecided-3, Disagree-2 and Strongly Disagree-1. For the negative statement the scoring was reversed i.e., Strongly Disagree-5, Disagree-4, Undecided-3, Agree-2, Strongly Agree-1. The scores of individual items were summed up to find the Mean scores. In addition to these statements there was one more item i.e., the opinion of the women milk producers toward factors that were affecting the AWMPCS. It comprised 7 sub-questions which were scored for favourableness on dichotomous scale 'Yes/No'. Score '1' was given for each positive answer and '0' for each negative answer. An attempt was made to cluster these items which were related and the total score on attitudes was calculated. Mean scores and SDs were used to know the favourableness of the items and also for the purpose of comparison between the SHS groups. The higher the Mean score the greater was the favourableness of response. Test of significance for Mean differences was also calculated (t-value, F-ratio). An attempt was also made to apply the  $\chi^2$  test to find out the association between the attitudes and the background variables. Multi Linear Regression Analysis was carried out.

The items on *exposure to modern influences* consisted of media exposure, urban contact and contact with extension agency, namely, Radio, Television, farm magazines, field trips, film shows, exhibitions and melas, visits to town, district, city and a few questions on contact with the dairy officials were scored for favourableness on 3 point scale, 3-2-1 (Regularly with the item gets 3, Occasionally-2, Not at all-1). The results of the data were presented in terms of Mean scores and Standard Deviations. The items were clustered and the total score for each SES group and the total sample were calculated and discussed. The higher the Mean score, the greater was the favourableness of the response. Test of significance for Mean differences between thee SES groups was calculated (t-value, F-ratio).  $\chi^2$  test was used to determine the association between exposure to modern influences and other variables.

The items on *dairy enterprise* refer to resource-support system, milk yield and dairy income, and the impact on family and status of women. The items were scored for favourableness on dichotomous scale (1-0). Score '1' was given for each positive answer and '0' for each negative answer. Some of the items were scored for favourableness on 5 point scale (5-4-3-2-1), 'Extremely Satisfied' with the item gets '5', Satisfied-4, Mixed-3, Dissatisfied-2, Extremely Dissatisfied-1. The favourableness was conceived in terms of previous work experience and family assistance, farm inventory and dairy equipment, motivational factors, veterinary and health services, support services to members of AWMPCS, dairy income, impact on family in terms of milk consumption, and change in food habits, family health and children's education, change in family assets, perceived satisfaction of dairy enterprise and the impact on the status of women. An attempt was made to cluster some of these items which were related and the score for each SFS group was calculated. The data were presented in

terms of Mean scores and Standard Deviation. The higher the Mean score the greater was the favourableness of the response. Frequencies and percentages were found for open-end items. An attempt was also made to apply the test of significance for the Mean differences (t-value, F-ratio). Per cent increase in the income of the members' families after starting dairy enterprise is calculated following the equation :

$$\text{Per cent increase in income} = \frac{\text{Net dairy income}}{\text{Income before starting the dairy enterprise}} \times 100$$

### *Measure of Self-perceived Status of Women*

The criteria used for measuring the self-perceived status of women were women's power in decision-making with regard to domestic affairs, restrictions on one's activities and freedom, and self-perceived status within the home. This scale was field tested and administered to 150 women milk producers to measure the status of women.

(i) *Measurement of Power in Decision-Making.* Distribution of conjugal powers has been defined in this study as the extent in which the authority to make decisions in different areas of family life is concentrated in one's spouse or shared between husband and wife. For measuring power in decision-making with regard to domestic affairs, a slightly modified form of the procedure developed by Blood and Wolf (1960) was followed in the present study. The power score was based on respondent's estimate of the relative participation of herself and her husband in making decisions on 10 items, namely, 'what foods to be cooked, type of clothes to be purchased for the wife, household articles to be purchased, disciplining children, whether the wife should work outside the home, purchase and sale of property, education of children, recreation, which relatives to visit and religious activities'.

Each respondent indicated whether or not she was the prime decision-maker with respect to each of the item. The items were to be answered in terms of 'Wife always', 'Jointly by husband and wife', 'Husband', 'Mother-in-law', 'Father-in-law and others'. In order to assess the decision-making power of the respondents, for each question score '5' was given to answers 'Wife always', '4' to the decisions taken 'Jointly by husband and wife', 3 to 'Husband' and 2 to 'Mother-in-law', a unit score was used for those with the response 'Father-in-law and others'. In addition to these 10 statements, there were three questions enquiring into joint consultation concerning family matters, whether there was any change in taking important decisions relating to business, family budget, marriage allowances, children's education and any other aspects after establishing the dairy enterprise which were to be answered on three point scale, the item, always gets 3, sometimes 2, never 1, while the items on dichotomous scale would get the score '1' for positive answer and '0' for the negative answer. The maximum score of this scale was 58. The items were scored for favourableness. The higher the value of the score the greater was the wife's power in the family with regard to household decision-making.

*ii) Measurement of Restrictions on Women's Activities.* The degree of restrictions imposed on the respondent was measured by asking whether or not the following 11 activities were prohibited to her, viz., 'going out to work, leaving house alone, talking to males, talking back to husband, talking to husband in the presence of others, having male friends, having female friends whom husband dislikes, participation in public life, visiting relatives frequently, going to fairs with friends and use of family planning methods'. The respondent had to answer in terms of 'allowed', 'not allowed' for each item. To measure the restrictions on the women's activities, a scale developed by Mukherjee (1975) was adopted and administered.

The items, restrictions on women's activities were scored for favourableness on dichotomous scale (1-0). Score '1' was given for each positive answer (allowed) and '0' for each negative answer (not allowed). The total score reflects the freedom given and the total number of restrictions not imposed. The maximum score of this scale is 11. The higher the score the greater the freedom was given and lower the restrictions imposed.

*iii) The Self-perceived Status within the Home* was measured by asking each respondent 11 questions. The answers to these questions reflected whether or not the respondent was (a) consulted by her husband on all important decisions, (b) approached for consultation and advise by her relations, (c) free enough to talk about birth control measure with her husband, (d) owner of any property, (e) having a bank account in her own name, (f) maintaining the household account, (g) keeping in her possession the cash money for day today expenditure, (h) considered more intelligent by her husband, and eight sub-questions on perceived satisfaction towards her position in her family after establishing the dairy. The items were scored for favourableness on dichotomous scale (1-0). Score '1' was given for each positive answer and '0' for each negative answer. The items on 3 point scale (3-2-1) were scored for favourableness (always with the items gets 3, sometimes 2, never 1). To measure the perceived status within the home, a scale developed by Mukherjee (1975) was suitably modified on field testing and administered.

The schedule covering all these three measures, viz., women's power in decision-making, restrictions on women's activities and perceived status within the home was administered to all the 150 member women milk producers. The total score obtained by the each respondent in respect of power in decision-making, restrictions on

women's activities and perceived status within the home were added and considered as 'status of women' Mean scores and SDs were used for the purpose of comparison between SHS groups. The higher the Mean score the greater was the favourableness of response. Test of significance for Mean differences was calculated (t -value, F-ratio).

### *Description of the Scale, Self perception of Entrepreneurial Attributes*

Entrepreneurial attributes were measured through a scale developed by Sharma (1978) "Manual for Comprehensive Scale for Entrepreneurship". These items were measured in terms of 'High / Moderately High / Average / Moderately Low / Low'. These were some essential personal traits of entrepreneurship that needed for running independently the business concerns and risk taking vocations. This scale was administered to 150 member women dairy entrepreneurs to identify whether they had the requisite personality dispositions to undertake the business activity, thereby contributing to the dairy entrepreneurship. Reliability and validity were found.

Entrepreneurial traits were scored for the favourableness of response. These items were scored on 5 point scale, 5-4-3-2-1 (High-5, Moderately high-4, Average-3, Moderately low-2, Low-1). The total score of these items was 200. These traits were classified into 3 groups, namely, high, moderate and low based on Mean  $\pm$  1 SD.  $\chi^2$  test was used to find out the association between entrepreneurial traits and performance of dairy enterprise and also with other selected variables.

In order to assess the direction and intensity of the entrepreneurial traits a single score was derived by multiplying the per cent frequency with the particular scale point

and summating across the scale points. The response 'low' coded with '-5', medium '0', high '+5', maximum score  $\pm 500$  ; scores were calculated following (Janice A, Reaburn: 1979) the equation:

$$\text{Score} = R_1S_1 + R_2S_2$$

Where

$S_1$  Scale rating of high status

$S_2$  Scale rating of low status

$R_1, R_2$  – Per cent of respondents selecting a rating ( $S_1$  and  $S_2$  respectively).

The higher the score, the greater was the entrepreneurial traits attributed to the women entrepreneurs and t-values were also analysed for drawing the necessary inferences between the SFS groups. Multi Linear Regression analysis was also carried out to know the combined effect of the selected variables.

### *Statistical Analysis*

The information collected from all the sources as the form of exploration was subjected to various statistical techniques such as non-parametric, parametric and multivariate methods.  $\chi^2$  test was used as a non-parametric test in order to find out the association between the background variables and each of the selected variables. t-value and F-ratio were calculated to find out the significance of Mean differences. The Correlation Coefficient was used to determine the significant relationship between the selected variables.

Multiple Linear Regression Analysis was used to know the combined effect of variables on attitudes, entrepreneurial traits, dairy income, impact on family and status of women. The data were also subjected to Orthogonal Factor Analysis (Cooley and Lohnes, 1971, 129-167). The advantage of using Orthogonal Factor Analysis lies in the independence of factors. Factor Analysis and Regression Analysis were used to estimate the contribution of the selected variables toward the performance of dairy enterprise and impact on family and status of women.

Psychometric Methods (Guilford: 1954), Multivariate Analysis in Behavioural Research (Maxwell: 1977), Multivariate Data Analysis (William W. Cooley and Paul Lohnes: 1971), Fundamentals of Statistics (Elhance: 1956), Applied Multivariate Analysis (John E. Overall, James Klett: 1972), Scientific Social Surveys and Research (Young: 1960), Statistics in Psychology and Education (Henry E. Garrett and R.S. Woodworth: 1958) were consulted while computing the appropriate tests of significance.

## *CHAPTER 4*

*RESULTS  
AND  
DISCUSSION*

#### *A. Profile of All Women Milk Producers' Cooperative Societies*

**Phenomenal Growth.** The initiation of organised milk collection from rural areas was started by way of organising cooperative milk supply Union at Chittoor, Srikalahasti, Puttur and Kalikiri during 1940-45. However, it was mostly the middlemen that dominated the membership in the Union. With the starting of Intensive Milk Supply Scheme (IMSS) in 1969 with a Dairy at Chittoor, the era of participation of milk producer began, eliminating the middle men. Under IMSS, village level milk collection was organised with producers headed by their informally chosen producer representative as group leader. The individual producer quality based pricing came into practice under the supervision of the dairy officials. Dairy became the prominent rural income generation activity with the thrust of DPAP/IRD in Chittoor District from 1975-76 onwards. With the acceptance of Operation Flood Project in Andhra Pradesh, direct participation of milk producers along with the milk production enhancement inputs from their own source came into reality from 1982-83. In the same year NIDB and Ford Foundation took initiative to integrate women into the modernised dairy sector by organising All Women Milk Producers' Cooperative Societies.

The milk is being procured from 4,600 villages in the district through 1508 village milk collection centres of which 860 are Milk Producers' Cooperative Societies (MPCS) including 110 All Women Milk Producers' Cooperative Societies and the balance 648 are Milk Production Association Centres (MPAC). The procured milk is being transported through 44 routes, by engaging 44 private transport vehicles and 12 tractors on contract. Of the total 78, 829 milk producers 66, 719 are from societies

(Members 66104 and non-members 615 who are in the process of forming into societies depending on their viability). The economic and social status of these producers is as follows : About 23 per cent are women as against 77 per cent men , 3 per cent are Scheduled Tribes (STs), 14.3 per cent Scheduled Castes (SCs), 25 per cent Backward Castes (BCs) and the remaining belong to other categories. Majority of whom are economically backward. Among the economically backward 31 per cent are Agricultural Labourers, 22 per cent Marginal Farmers, 29 per cent Small Farmers, 11 per cent Medium Farmers and 6.5 per cent Large Farmers (Brief Note, Chittoor District Cooperative Milk Producers Union Limited : 1993-94).

*Women Milk Producers' Cooperative Societies.* In the present study it was intended to measure the working pattern and support services of sample AWMPCS (9) situated in 9 villages, namely, Ananthagurrrappagaripalli, Ithaepalli, Kottala, Kongaravaripalli, Kuchivaripalli, Moravapalli, Mungilipattu, Pullaiahgaripalli Seshapuram of Chandragiri Mandal in Chittoor District. As already mentioned in the Chapter on Methodology, the interview schedule comprises 10 items, namely, year of establishment and registration, area of operation, membership pattern, management and staff pattern, details of meetings, herd size, milk production, records and equipment, and services rendered by the society to the members. It was administered to nine Presidents/Directors of AWMPCS and the necessary data were collected from them. Frequency and percentage for all the 10 items were found and discussed with the view to present a clear picture of the AWMPCS (Appendix F : Tables 3 and 4). This

information would serve as background information to understand the AWMPCS and dairy enterprise.

***Establishment and Registration.*** In 1984-85, 33.33 per cent of the sample All Women Milk Producers' Cooperative Societies were started, and out of them 22.22 per cent registered. While in 1985-86, 44.44 per cent of the AWMPCS were started and none had registered. The rest of the 22.22 per cent of the AWMPCS were started in 1987-88. Whereas 44.44 per cent of the AWMPCS were registered in 1987-88, followed by 33.33 per cent of the societies after 1988. The data indicate that the women milk producers were organised themselves into cooperatives much earlier than getting them registered. This is an indication of the progressive outlook of the women milk producers giving importance to the organised activities

***Area of Operation.*** The number of ***households covered*** by the sample AWMPCS (9) were 1615 and the Mean coverage was 179 households per society. The data revealed that majority of the societies (55.56 per cent) had covered above average of 179 households, while the coverage by 44.44 per cent of the societies was below average. The total number of women ***members*** of the 9 AWMPCS was 772 and the Mean membership was 85.77. A higher percentage of the societies (66.67 per cent) had members less than the average as against 33.33 per cent of the societies which had above average. There were ***non-members*** in 66.67 per cent of the societies and the Mean was 8.55. Majority of the AWMPCS had above average

of non-members (44.44 per cent), while 22.22 per cent below average and the rest (33.33 per cent) of the societies had only society members and not others. The results indicate that the rural women milk producers were finding these societies useful to become members.

***Membership Pattern.*** Information was elicited on the membership pattern in the General Body and Governing Body of the AWMPCS. A woman can become a member of the AWMPCS by paying Rs. 1/- as entry fee and by subscribing a share value of Rs.10/- and can accrue all the benefits of the society. All members constitute the General Body of the society. The General Body is the supreme authority in all matters concerning the affairs of the society. It delegates some of the management powers to the managing committee for making decisions in day to day affairs. The data revealed that the sample AWMPCS had the members belonging to Forward Castes (53.62 per cent), Backward Castes (30.31 per cent), and Scheduled Castes (16.06 per cent) in the General Body indicating that there was fair representation from all the caste groups in the All Women Milk Producers' Cooperative Societies (Fig. 3).

As regards the Governing Body it is elected by the General Body to supervise the activities of the society and to take certain policy decisions for the smooth functioning of the society. The Governing Body comprises a President and eight Directors. The reservation formula is generally adhered to in respect of the election of Governing Body members. The data revealed that the Governing Body had the

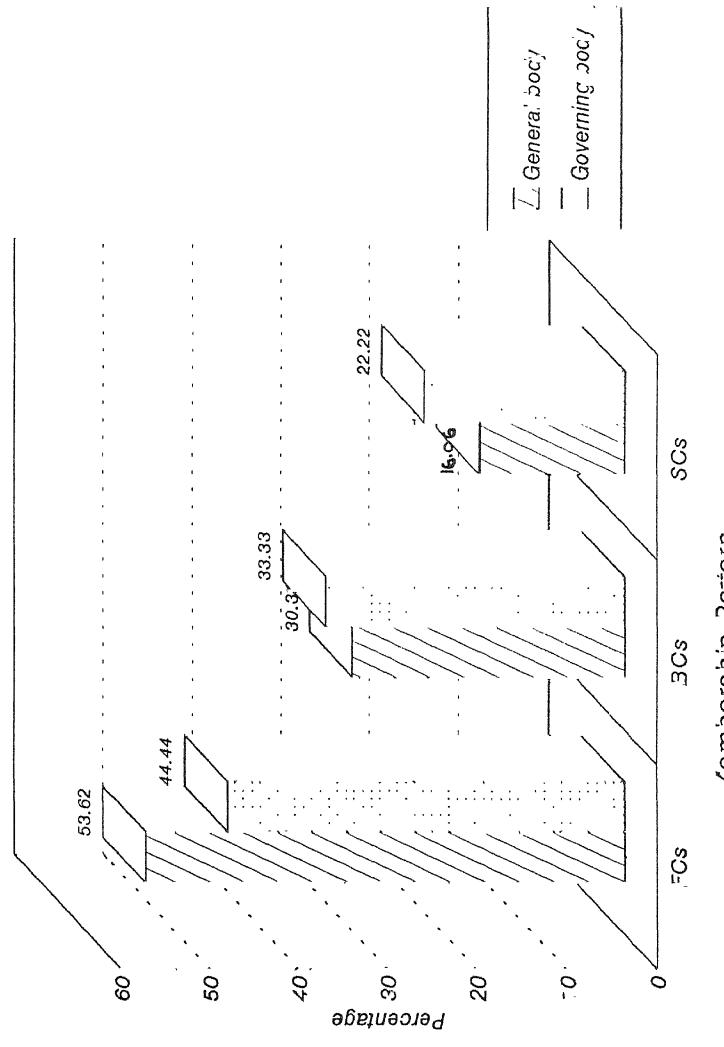


Figure 3. Membership Pattern in Women's Producers' Cooperative Societies

members belonging to FCs (44.44 per cent), BCs (33.33 per cent) and SCs (22.22 per cent). The data indicate that there was a fair representation from all the caste groups in the Governing Body of AWMPCS. The Mean membership in the General Body was in decreasing order, FC (46), BC (26), and SC (13.77), but the percentage of societies with the above average membership was higher among BCs and SCs (55.56 per cent) than among the FCs (33.33 per cent). Similarly, in the Governing Body of the AWMPCS the Mean membership was in decreasing order, FC (4), BC (3), and SC (2), while the percentage of societies with the above average membership was higher in the caste groups like BCs and SCs (88.89 per cent) than in the FCs (66.67 per cent), thereby indicating that care was taken to include as many members as possible from the weaker sections. This is a desirable and progressive change. It also indicates that the weaker sections are showing keen interest in the organised activities. It is certain that the membership in the cooperative organisations would be helpful for the uplift of socio-economic status.

***Management and Staff Pattern of the Society.*** The management of the society is vested in the hands of General Body and the Governing Body comprising President and eight Directors. The paid staff of the society constitute Secretary, Tester and Cleaner. The Secretary plays a pivotal role in the society and is responsible for its maintaining and functioning. The President with the consent of other members of the Governing Body and in accordance with the provisions of the existing rules can appoint a Tester and a Helper for the smooth functioning of the society. The data

revealed that in majority of the AWMPCS the Secretaries (88.88 per cent), Testers (88.88 per cent) and Helpers (33.33 per cent) constitute male members whereas 11.11 per cent of Secretaries, 11.11 per cent of Testers and 66.67 per cent of Helpers belong to women community. This indicates the prevalence of the traditional method of preferring male workers to female workers for manual jobs. Among them 77.78 per cent of the Secretaries and 33.33 per cent Testers were trained.

Hundred per cent of the AWMPCS were conducting *meetings* once in a month and in 44.44 per cent of the societies special meetings were also held. In all the societies the general attendance pattern of the members in the meetings ranged from 70-100. Generally, the meetings were held as per the members' convenient time. In general, the topics discussed during the meetings were whether the society was running in 'profit' or 'loss', auctioning of sample milk, to comply with the members complaints etc. Generally there was consensus while taking the decisions to the satisfaction of all the members. The meetings were attended by the President, Directors, Members and Secretary and other paid staff.

***Herd Size.*** It includes both dry and milch animals. The data revealed that majority of the milch cattle were she buffaloes (270) and the Mean was 30. Majority of the AWMPCS (55.56 per cent) had above average she buffaloes , while 44.44 per cent of the societies below average. There were 247 Desi cows and the Mean was 27.44. Majority of the sample societies (66.67 per cent) had less than average, while

33.33 societies had the Desi cows above average. With regard to the cross-breed cows there were only 79 in all the societies and the Mean was 8.77. In 44.44 per cent of the societies there were no cross-breed cows while 44.44 per cent of the societies had above average and 11.11 per cent below average. In respect of the cows, all the 9 sample societies together had 250 cows and the Mean was 27.77. A higher percentage of societies (66.67 per cent) had above average as against 22.22 per cent of the societies below average and the rest of the 11.11 per cent of the societies possessed no cows at all. The data on herd size revealed that the herd size was very small when compared to the membership of the societies. It may be suggested that the steps should be taken by the Union/Federation to strengthen the resource-support system to the Milk Producers Societies so as to increase the herd size which ultimately results in higher milk production and dairy income empowering women and families.

***Milk Procurement.*** The average annual milk procurement per day was 175.2 ltrs. A higher percentage of AWMPCS (55.56 per cent) were procuring milk more than the average, while 44.44 per cent of the women milk producers societies less than average. They were paid Rs. 4.50 per litre.

***Records and Equipment.*** In each society 23 registers, namely, day book, cash book, general ledger, purchase register, dairy register, individual member register, test note books, share registers, dead stock register, testing material register, can stock register, staff salary register, movement register, proceedings book of annual general

body meetings, testing equipment, purchase register, share-certificate book, register for maintenance of tests and weight slip, assets book of the society, sales register, stock register, share capital and other income register, coupon book for milk sales and artificial insemination dead stock register were maintained. A higher percentage of the societies (88.89 per cent) were maintaining the registers up to-date as against 11.11 per cent of the societies which were not maintaining up to-date.

**Equipment.** In almost all the societies the following equipment, bauerometer, table, chairs, lactometer, AI equipments, first-aid box, wooden cub-board, petromax light, milk measuring sets, lanterns, utensils, were available. The equipment centrifuses, milk collection cans were found inadequate. T.V. sets were available in two AWMPCS.

**Services Rendered by the AWMPCS to Members.** Most of the input activities were financed through the generated fund created by retaining 0.09 paise per litre with in-built in the price structure. Help was also obtained from NDDB, IRDP, TRYSEM, IDPAP etc. Under support and input activities the following works for the benefit of rural milk producers have been taken up through the All Women Milk Producers' Cooperatives Societies.

(i) **Cattle Loan.** Cattle Loan (Rs. 8300/-) to six women members (landless, SC, ST, BC etc.) were provided in each society at the first instance as per the rules.

In the present study it was observed that almost all the AWMPCS, six women milk producers were given loans except in Moravapalli where only 4 members were given loans; 66.67 per cent of the OCs were given loans in all the 9 societies, while RCs were given loans in 8 societies. In Moravapalli only 66.67 per cent OCs were given loans.

(ii) *Supply of Cattle Feed and Calf.* The Chittoor District Cooperative Milk Producers' Cooperative Union has launched the most popular scheme of supplying cattle feed (25 per cent subsidy) to all its producers. Milk producers were drawing their feed requirements from their nearest milk plants. The Union was incurring about Rs.3.75 to Rs. 4.00 lakhs toward subsidy on cattle feed every month. The data revealed that in hundred per cent of AWMPCS cattle feed was supplied to the member milk producers. Supply of calf-feed on 50 per cent cost of female cross-breed cow for a period of 6 months was carried out in all the sample AWMPCS.

(iii) *Fodder Development.* Under fodder development information was elicited on fodder seed multiplication community development programme, enrichment of paddy straw with urea spray. The data revealed that these fodder development activities were being carried out in all the sample AWMPCS.

(iv) *Animal Health Care:* Under this, there were 500 veterinary first - aid centres and 76 artificial insemination centres by using latest frozen semen techniques.

In the Nation wide review of artificial insemination activities NDDB has commended the work of Chittoor Union in achieving 50 to 55 per cent conception rate. First-aid drugs were being supplied by the Union from generated funds. The societies were attended by the Veterinary Assistant Surgeons on fixed dates in a week who in turn examined the animals for pregnancy diagnosis, infertility problems and treatment of problematic cases. The paid secretaries were given training in veterinary first-aid for three months. Fertility camps were arranged at society level regularly. The cases were examined, and treatment followed on the advise of Cattle Development Officer. As per his advice, the drugs were used for the animals examined. These drugs were purchased from the generated funds. Further, the Chittoor District Milk Union has been sanctioned one cold-chain by NDDB for protecting all cattle against Foot-Mouth disease. Information was elicited on the health care of animals and Artificial Insemination Centres, Foot and Mouth Vaccination Programmes. These programmes were carried out in hundred per cent of the sample AWMPCS.

(v) *Cattle Insurance.* The milch cattle belonging to women milk producers of the cooperative societies were insured with concessional rate of premium for a period of two years. The premium was shared  $\frac{1}{3}$ rd by the Union,  $\frac{1}{3}$ rd by the society and  $\frac{1}{3}$ rd by the producer. Each producer has been given maximum two animals for inclusion in the insurance programme. In the present study, milch cattle were insured in all the sample AWMPCS.

In addition to the above services, in two of the AWMPCS, namely, Mungilipattu and Ithaepalli, subsidised T.V. sets were given, while stainless steel buckets/pails were given to SC/BC/OC members (SC-1; BC-7, OC-27) in four AWMPCS, namely, Mungilipattu, Ithaepalli, Kongaravaripalli and Pullaiahgaripalli

*(vi) Extension.* Regular lectures to the producers at society level were given on managerial practices, animal disease, their prevention and feeding. In addition, film shows on breeding, feeding and management, and disease prevention were screened at village level. Enrichment of paddy straw with urea were also demonstrated. Mass deworming camps were also conducted at society level. The data revealed that this extension activity was going on in hundred per cent of the sample AWMPCS. The activity of medical help and the health education on women and children were also carried out in hundred per cent of the sample AWMPCS. Rural Libraries were also established in all these AWMPCS.

*(vii) Telugu Grameena Kranthipadham.* Under this 366 milk society buildings in villages and 3 buildings at Milk Products Factory (MPF), Chittoor for the benefit of farmers were constructed with 50 per cent contribution from the farmers. The data revealed that these society buildings were constructed in 44.44 per cent of the societies.

The popular district agencies like DRDA, DPAP, TRYSHM, had financed the schemes for dairy development activities through the Chittoor District Milk Producers'

Cooperative Union. Electronic milk testers (30), community fodder plots (5), power chaff cutters (20) were supplied for the distribution to producers on 50 per cent subsidy basis. Under TRYSEM, a building and a van were purchased for the training centre of the Union. The Chittoor District Cooperative Milk Producers' Union is working in close coordination with all the district development agencies for better implementation of dairy development activities

Keeping this information in view, the socio-economic conditions of the women milk producers, their awareness and attitudes toward AWMPCS, their exposure to modern influences, entrepreneurial traits, dairy enterprise in relation to resource-support system, dairy income and its impact on family and status of women were examined and measured.

## *B. Socio-economic Conditions of the Women Milk Producers*

Socio-economic status (SES) among many social variables is important and most widely used. Socio-economic status is generally considered an important variable, both in the planning of developmental programmes and in research in the fields of Education, Sociology, Social work, Psychology, Community Development, Agricultural Extension, Home Science Extension. Several studies have shown how socio-economic status influences values and norms of behaviour, social participation, pattern of leadership, motivation for improvement and communication in a community. Knowledge of this kind of relationship can be utilised in the better planning of programmes (Udaipareek and Trivedi: 1964).

The concept of Development Programme requires a fundamental review of the policies and approaches for socio-economic progress in rural sector. It envisages adoption of a rural development philosophy which leads to modernisation and integration of rural masses as a whole giving them more equitable access to productive resources, employment and income.

All the developmental programmes are directed toward the poor, in particular families below the poverty line. Within this group there exists variations with regard to the parameters like caste, education, occupation, land-holding, type of house, social participation, farm power, material possessions, type and size of family which are more expressive of the actual socio-economic backwardness of the beneficiaries whose total development is the ultimate goal of all the poverty alleviation programmes. Daily Development is one such programmes meant for the alleviation of rural poor through organised dairy cooperatives in particular AWMPCS.

In the present study it was intended to measure the existing socio-economic conditions of women milk producers who were the members of AWMPCS, and also determine the relationship between the SES, and other variables, namely, awareness and attitudes toward AWMPCS, exposure to modern influences, entrepreneurial attributes. Resource - support system of dairy enterprise and dairy income and its impact on family and status of women.

As already described in the Chapter on Methodology, this SES scale comprises 12 items, namely, caste, occupation, education, social participation, land, house, farm power, material possession, type and size of family. Income, liabilities and savings were also added, religion and marital status and age were also discussed. The first 9 items were scored on a 6 point scale and the total score was 54 for all the 9 items. It indicates the respondents' overall socio-economic status. Frequency and percentage for all the 12 items were found and discussed with a view to present a clear picture of the existing socio-economic conditions of the member women milk producers' of AWMPCS. It was already stated that 150 member women milk producers of AWMPCS were interviewed for assessment of their socio-economic status. The results are presented in Table 5 of Appendix F.

**Religion.** A higher percentage of women milk producers (98.66 per cent) were Hindus, followed by 1.33 per cent Muslims, indicating that the members of AWMPCS were mostly Hindus.

**Marital Status.** Data revealed that majority of the women milk producers were married (86 per cent), followed by 14 per cent widowed/deserted. This data indicates

that the single woman who happened to be the poorest of the poor had taken advantage of the organised cooperative societies to help herself and become self-reliant.

**Age.** The age of the respondents was measured in terms of the completed number of years. The data revealed that the higher percentage of women milk producers (38 per cent) were in the age group of 35-45 years, followed by 27.33 per cent in the age group up to 35 years, while 23.33 per cent of women milk producers were in the age group 45-55 years. A less percentage of them (11.33 per cent) were above 55 years. There was fair representation from the young and middle aged groups as compared to the middle aged who were more (61.33 per cent). The results were also presented in Figure 4. The middle aged were considered to be matured and strong enough for undertaking dairy enterprise by virtue of their experience. It is also essential to encourage and motivate the rural youth besides the middle aged in such a way that their energy and potential should be harnessed to serve the national interest like helping the unemployed and expediting the poverty alleviation. Since the dairy enterprise on a small scale (one or two milch animals) could also be managed by the old age group (above 55 years) they too should be encouraged and supported by the Dairy officials. This result infers that the majority of women milk producers who had taken up dairy enterprise as members of AWMPCS belonged to the middle aged group. These results were in conformity with the reports of Ranganadhan (1977), Pawar (1979), Rama Chand, et al., (1979), Sohal, et al., (1979), Rao (1982), Gopala Krishnaiah (1984), Ingole, et al., (1988), Rao (1989), Sivanarayana (1990) and Raju (1991). This may be due to the contacts made by the extension worker with the middle aged persons to take up the Dairy enterprise.

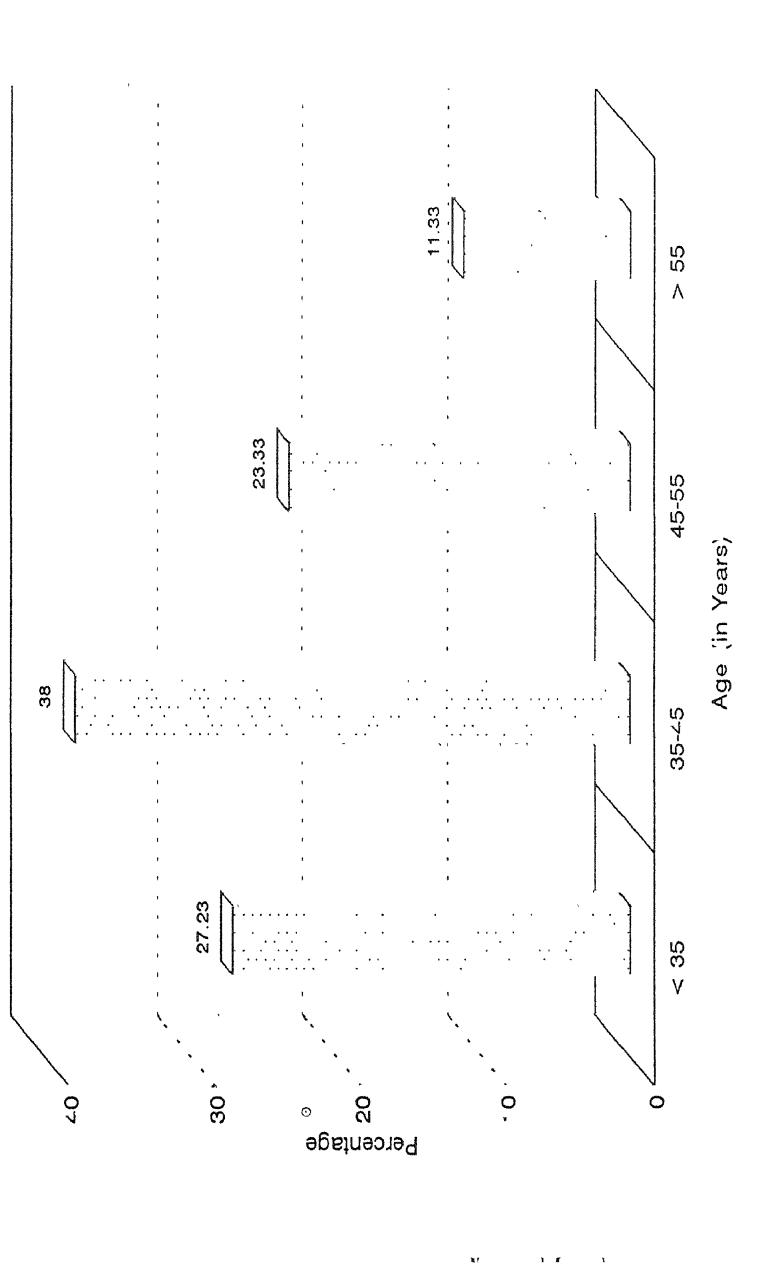


Figure 4. Age of women smokers

**Caste.** The caste of an individual is conceptualised as the one which is ascribed by birth. Caste and socio-economic conditions in a village are quite inter-related. The village leadership is generally in the hands of the high caste group as the other caste groups are in a disadvantageous position in utilising the benefits on par with the forward castes. It is evident from the Table 5 (Appendix F) that majority of the women milk producers (57.33 per cent) belonged to the Forward Castes, followed by Backward Castes (32.66 per cent) and Scheduled Castes (10 per cent). The results were depicted in Figure 5. A higher percentage of women milk producers belonged to the Forward Castes, the dominant castes being Kamma and Reddy.

This finding was in conformity with the studies of Kherde, et al., (1978). But contrary to the findings of Anil Charan and Sharma (1989) majority of the member dairy producers belonged to the lower status of rural society. In the present study it was observed that the representation from different caste groups appeared to be in proportion to their population. It is evident that 42.66 per cent of the women milk producers belonged to the weaker sections. They were able to become the members of the organised institution just because of the establishment of AWMPCS and the supportive services rendered to them.

**Occupation.** Occupation in the present study was operationalised as the continuous engagement of an individual in similar type of work to generate income for livelihood. The data revealed that a higher percentage of the women milk producers (70.00 per cent) were engaged in cultivation, followed by agricultural labour (12 per cent), business/service (10 per cent) and caste occupation (8 per cent). The results were also depicted in Figure 6. These findings clearly indicate that women producers were

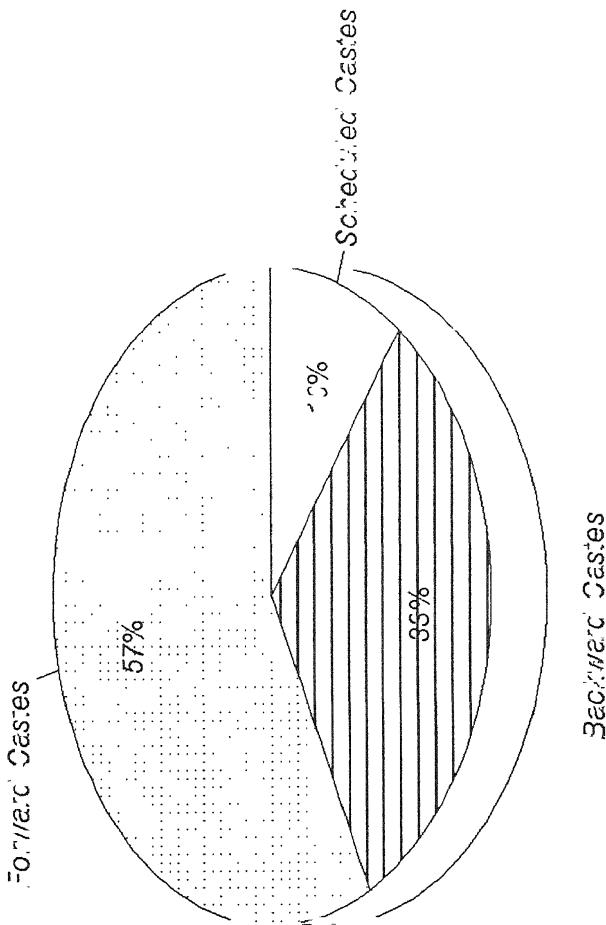


Figure 5. Case of Open Joint Prostheses

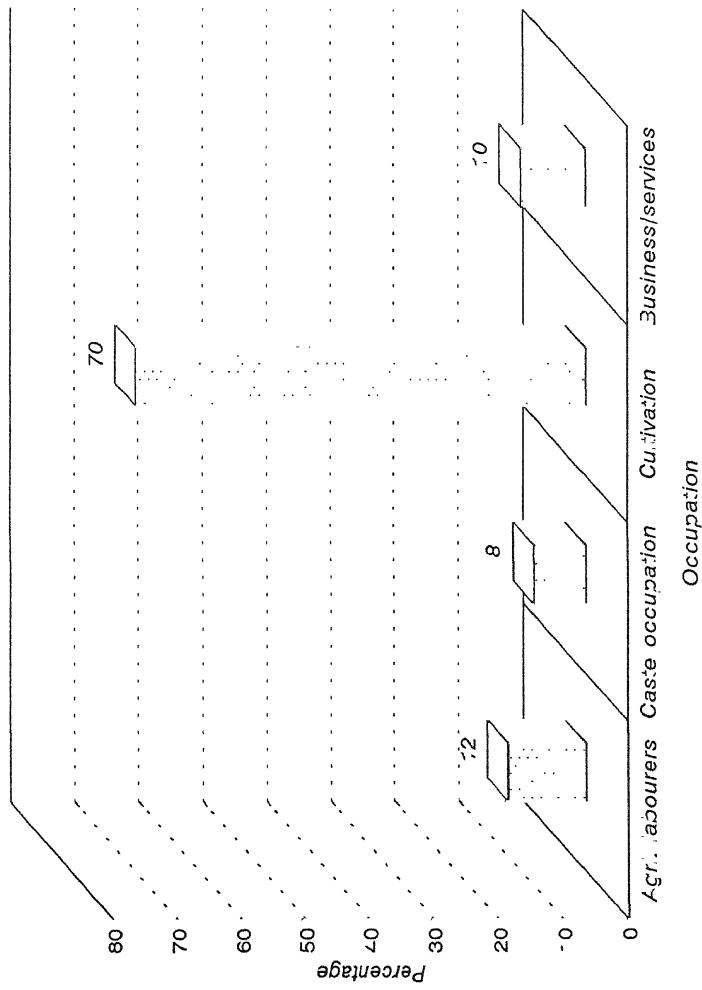
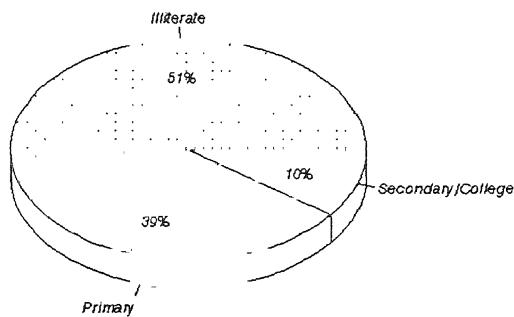


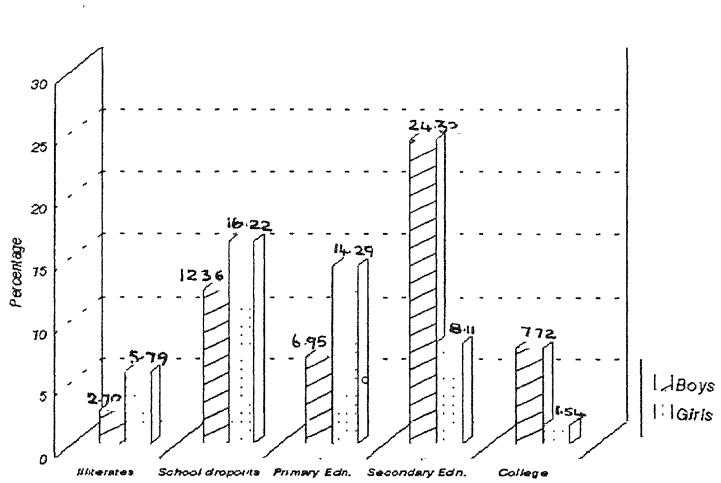
Figure 6. Socio-economic Status of Farmers

flourishing better in farming and dairy sectors. The reason might be that farming supports dairy to procure mainly green and dry fodder for milch animals. This finding was in conformity with the studies of Kherde, et al., (1978, 1979) and Sohal, et al., (1979), Rao (1988) and Raju (1991).

***Education.*** Goode (1959) defined education as the aggregate of all processes by means of which a person develops abilities, attitudes and other forms of positive values in the society in which he/she lives. Beal Sibly (1967) defined education as individual's ability to read and write and amount of formal education. In the present study education was operationalised as a person's ability to read, write, and the formal education received. It was apparent from data that a higher percentage of women milk producers (51.33 per cent) were illiterates, followed by 38.67 per cent who had primary education and 10 per cent secondary/college education (See Fig. 7). Thus, the data indicate that a meagre percentage (10 per cent) of the members had either secondary/college education and the rest were either illiterates or had inadequate primary education. It seems education was not considered as a pre-condition to run an enterprise like dairy. Though, one need not have to be educated to practise dairying but it enlightens and helps an individual gain access to different information sources. Finally, the task of educating the women milk producers should be undertaken by different voluntary and governmental organisations under 'Akshara Jyothi' in such a way that the members get awareness of the programme and actively seek information on par with the constituencies with 'counter veiling power' for the adoption of better innovation. These results were in agreement with the reports of Rao (1986), Chowhan and Sharma (1987), Chowhan, et al., (1979), Rama Chand, et al., (1979, 1990), and Verma (1989).



*Educational Status of Women Milk Producers*



*Educational Status of the Children of Women Milk Producers*

*Figure 7. Educational Status of Women Milk Producers and their Children*

***Land-holding.*** Land-holding was operationalised as a member of standard acres possessed by the farmer at the time of enquiry. The data revealed that a higher percentage of women milk producers had the land holdings of 1-5 acres (48 per cent), followed by 22.67 per cent who had 5-10 acres and 20.67 per cent 11-15 acres. A less percentage of the women milk producers (8.6 per cent) possessed no land at all (See Fig. 8). This shows that the women milk producers were mostly cultivators and as such there is every possibility for their economic uplift by adding dairy enterprise to their agricultural activity. Though dairy enterprise is supposed to help the landless agricultural labour it is necessary for them to have minimum land holding to get atleast green-fodder for their milch animals. This may be the reason for opting for dairy enterprise by a less percentage of the landless women. Therefore, the present land holding pattern in India should be changed to facilitate the landless to possess a minimum holding by distributing the Banjar Lands so that the dairy enterprise would become a sicutful operation even to the poorest of the poor. It is commendable that majority of the women milk producers were small and marginal formers and at the same time there was a fair representation from the medium size farmers also. These findings were similar to the results of Ram Chand, et al., (1979), Gopala Krishnaiah (1984), and Ingole, et al. (1988).

***Social Participation.*** Social participation was operationally defined as the degree of participation made by the women milk producers in formal organisations either as a member or as an office bearer. It was observed from the data that a higher percentage of the women milk producers (79.33 per cent) were the members of one organisation, while 9.33 per cent of them were members of more than one organisation. A less percentage of them (11.33 per cent) were the office bearers. It is apparent from the data

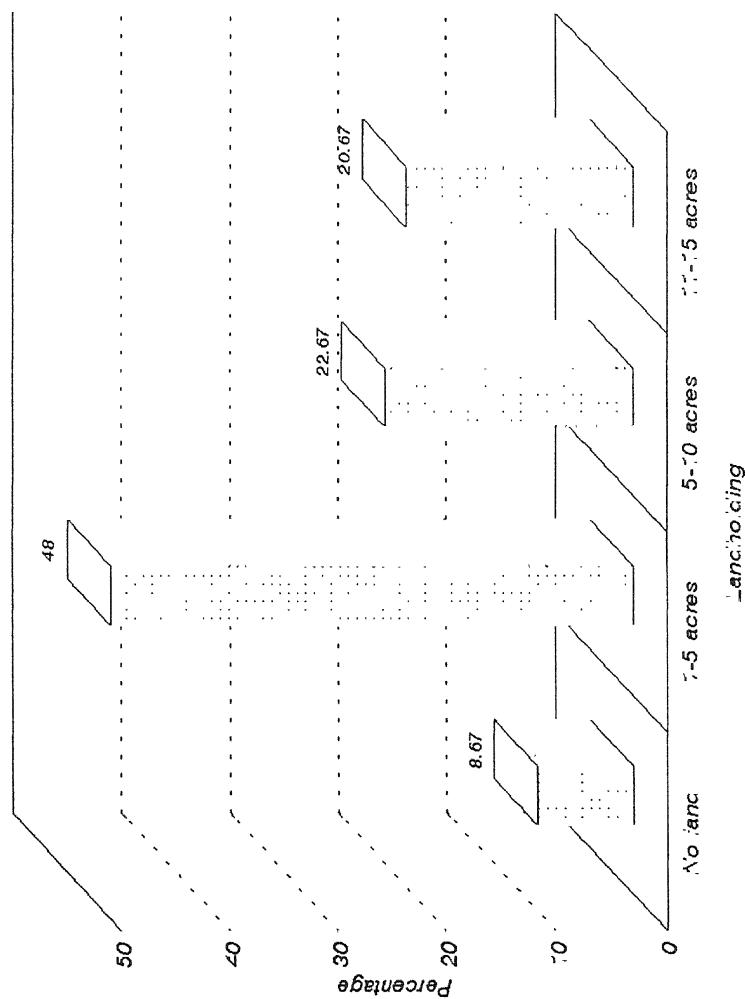


Figure 8. Anchoring

that because of the establishment of AWMPCS majority of these women milk producers had some social participation by becoming members of the AWMPCS. Some of these women milk producers (20.66 per cent) appeared to be more active and competent and as a result they were holding membership in more than one organisation and also acting as office bearers. This membership helps them in taking collective decisions particularly in group developmental activities like dairy enterprise. These results were in conformity with the results of Kherde, et al., (1979), Rama Chand, et al., (1990) and Raju (1991).

**House.** House was operationally defined as the type of building or living place of the women milk producers. It was observed from the data that majority of the women milk producers (35.99 per cent) were living either in huts (20.66 per cent) or in kutcha houses (15.33 per cent), followed by 33.33 per cent in both the houses, 17.33 per cent in pucca houses and 13.33 per cent in mansions (See Fig. 9). The possible reason for the above trend was that majority of the members were small and marginal farmers with dry land depending on rains for agriculture and their livelihood. Hence, it is desirable to improve their standard of living by motivating them to adopt dairy enterprise in a viable unit so that they can raise their level of living.

**Farm Power.** Farm power operationally refers to the number of milch animals in possession of the respondent. The data revealed that a higher percentage of women milk producers possessed 1 or 2 milch animals (80.67 per cent), followed by 12.67 per cent 3-4 milch animals, and 6.67 per cent 5-6 milch animals. This shows that the women milk producers need to be empowered with better resource-support system, so as to strengthen the dairy enterprise.

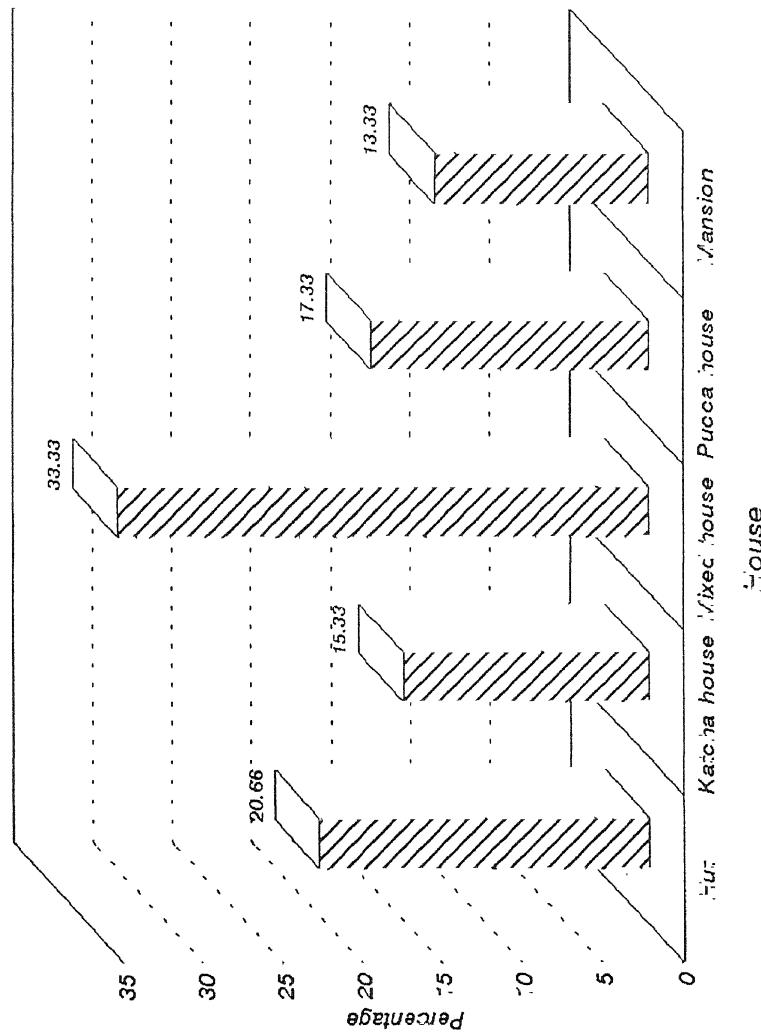


Figure 6. Type of house

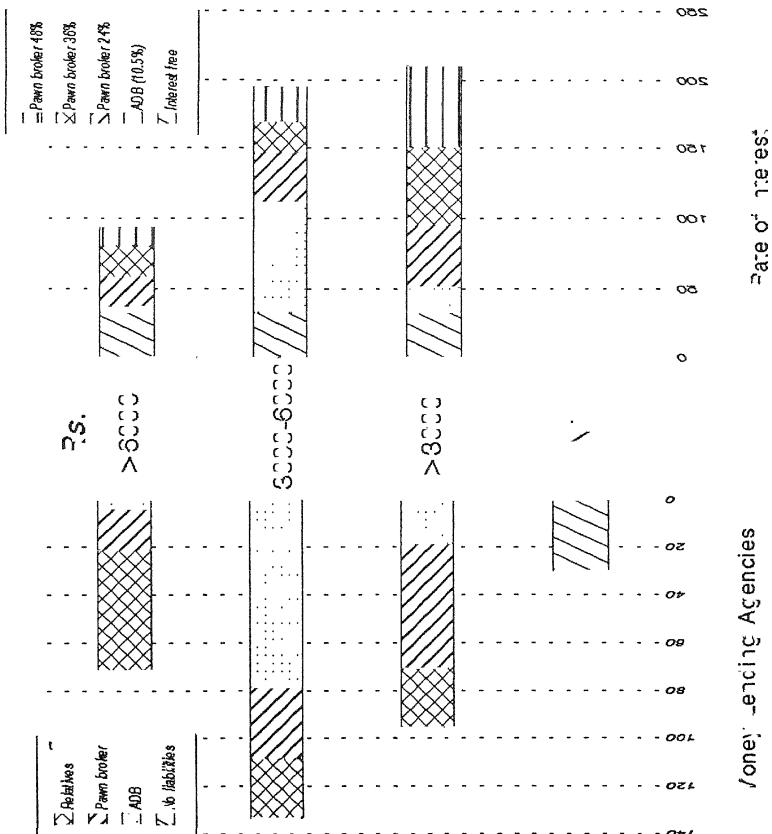
**Material Possession.** Material possession was operationally defined as the possession of different tools and implements possessed by the producer. The results revealed that a higher percentage of the women milk producers had possessed radio, (76.66 per cent), chairs/tables/almirahs (48.66 per cent), cycle (57.33 per cent), improved agricultural implements (48.66 per cent), and bullock cart (16 per cent). This may be due to the increased possession of other assets in total by the respondents. The findings were in line with the observations of Ranganadhan (1977) and Raju (1991).

**Family.** Family was referred as type of family and size of family. Type of family was divided into two categories, namely, nuclear and joint family, while the size of family was referred to the total number of individuals present in the families of women milk producers. It was observed from the data that a higher percentage of women milk producers (51.33 per cent) were living in nuclear families, while 48.67 per cent in joint families. Majority of them (75.33 per cent) had members up to 5 in their families, while 24.67 per cent above 5 in their families. These findings indicate that the present tendency is towards preference of nuclear families to joint families and a small number of members in a family were observed in majority of the families of women milk producers. This trend might be attributed to the breakdown of joint family system. These findings were in conformity with the results of Ranganathan (1977), Sohal, et al., (1979), and Raina Chand, et al., (1979). But Sohal, et al., (1982) and Rao (1986) in their studies indicated contrary results.

**Annual Income.** The results revealed that 16.67 per cent of the women milk producers had the annual income of less than Rs. 6,400 followed by 42 per cent of the producers who were economically backward had the annual income ranging from

Rs.6,400 to Rs. 15,000. The rest of the women milk producers (41.34 per cent) had the annual income above Rs. 15,000. Thus, majority of the women milk producers (48.67 per cent) were economically backward (42 per cent) and also living below the poverty line (16.67 per cent), indicating that the women belonged to weaker sections had taken the advantage of AWMPCS which is genuine and desirable. On the whole, there was a fair representation from all the income groups.

***Financial Liabilities.*** The results revealed that majority of the women respondents (38.67 per cent) had the liabilities ranging from Rs. 3,000 to Rs. 6,000 followed by 23.33 per cent up to Rs. 3,000. While 30 per cent of the women milk producers did not borrow any money at all. A less percentage of women milk producers (8 per cent) had borrowed money above Rs. 6,000. Among them 36.66 per cent of women milk producers had borrowed money from the Agricultural Development Bank; 30.66 per cent had taken loans from the pawn brokers and 2.66 per cent from relatives and the rest 30 per cent had no liabilities. As regards the rate of interest 36.66 per cent of the women milk producers had borrowed money from the Agricultural Development Bank at the rate of 10.5 per cent, 15.33 per cent of producers at the rate of 24 per cent, 10 per cent producers at the rate of 48 per cent and 6 per cent producers at the rate of 36 per cent from the pawn brokers (See Fig. 10). While 2 per cent of the women milk producers had taken interest free loans from their relatives (Appendix F; Table 6). This data suggest that the bankers have yet to come forward to meet the financial requirements of the rural women who would like to take up dairy enterprise as an activity to empower themselves and their families. It also shows that proper encouragement and motivation are not coming forward from the financial agencies and as such the women milk producers have been forced to resort to pawn brokers for financial help at exorbitant interest rates.



Date of test\*

lending Agencies

Figure 5. Financial Services

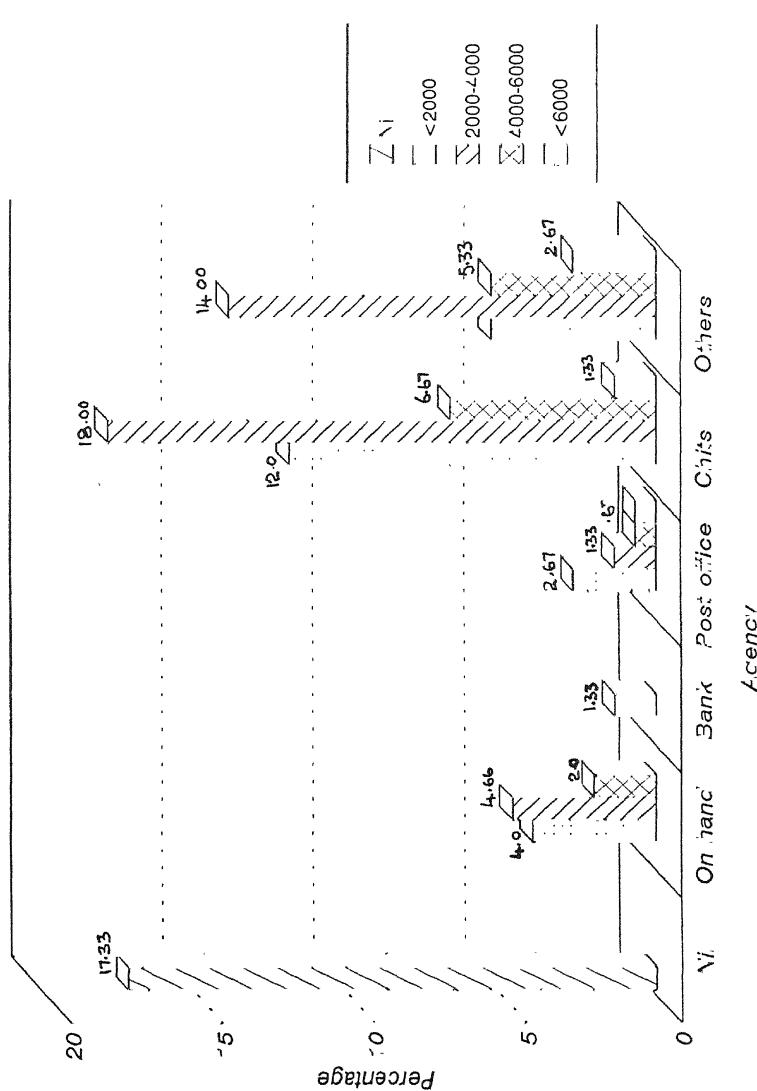
On the whole 70.00 per cent of women milk producers had borrowed money. Among them 97.14 per cent had spent the borrowed money on productive purposes like petty business (11.43 per cent), purchase of land, agricultural inputs and farm expenses (38.10 per cent), purchase of auto, rickshaw, sewing machine (19.05 per cent) and on children's education (28.57 per cent). They also spent the borrowed money for unproductive purposes like domestic needs (28.57 per cent), medical need such as child birth, hysterectomy and chronic diseases (14.29 per cent), celebration of marriages (19.05 per cent) and 8.57 per cent on others like death ceremony, seeking a job, expenses during festivals and house repairs (Appendix F : Table 7). These results indicate that the women milk producers are progressive in their outlook, and it may be suggested that the economically backward women may be provided with interest free loans for productive purposes and also for domestic needs such as celebration of marriages, death ceremony, and also for medical needs. Further, the money spent on children's education is also desirable to be reimbursed so as to encourage and promote education among children.

**Savings.** As regards savings, the data revealed that 17.33 per cent of the women milk producers had no savings at all. A higher percentage of them had savings through the chits (38 per cent) followed by 27.33 per cent who had given loan on interest to others, and the rest of them (17.32 per cent) had deposited their savings in post offices (5.33 per cent), banks (1.33 per cent), and kept in hand (10.66 per cent). All this indicates the need for awareness of programmes among women milk producers to make them understand and utilise the services of banks for depositing their savings. Further, a higher percentages of women milk producers had the savings Rs. 2,000-4,000 (38 per cent), followed by 25.33 per cent who had the savings up to Rs. 2000, while

14.66 per cent of the producers had the savings ranging from Rs. 4000 to Rs.6000 and a less percentage of the women milk producers (4.66 per cent) had the savings above Rs.6000 (Appendix F : Table 8). Results were also depicted in Figure 11. Further it was revealed that the milk producers who had savings were lending money to others with exorbitant rate of interest ranging from 36 per cent to 84 per cent. A higher percentage of them (10.48 per cent) were lending money at the rate of 84 per cent, followed by 8.87 per cent of milk producers at the rate of 48 per cent, while 7.26 per cent of producers at the rate of 36 per cent and a less percentage of them (6.45 per cent) at the rate of 60 per cent. These results testify the progressive change in the outlook of the weaker sections who have developed the will to save though their income was meagre.

***Educational Status of Children.*** Information was elicited on the educational status of the children in the families of women milk producers. A higher percentage of their children (32.43 per cent) had secondary education, followed by 21.24 per cent who had primary education. A less percentage of them (9.27 per cent) had college education. Considerable high percentage of children (28.57 per cent) were school dropouts and a less percentage (8.49 per cent) were illiterates.

Sex-wise the data revealed that a higher percentage of the boys (24.32 per cent) had secondary education as against 8.11 per cent of the girls, followed by 7.72 per cent of the boys who were graduated as against 1.54 per cent of the girls. A higher percentage of the girls (16.22 per cent) were school dropouts as against 12.36 per cent of the boys, 14.29 per cent of the girls had primary education as against 6.95 per cent of the boys, whereas it was found that 5.79 per cent of the girls as against 2.70 per cent of boys were illiterates (Appendix F : Table 9). These results indicate the need for

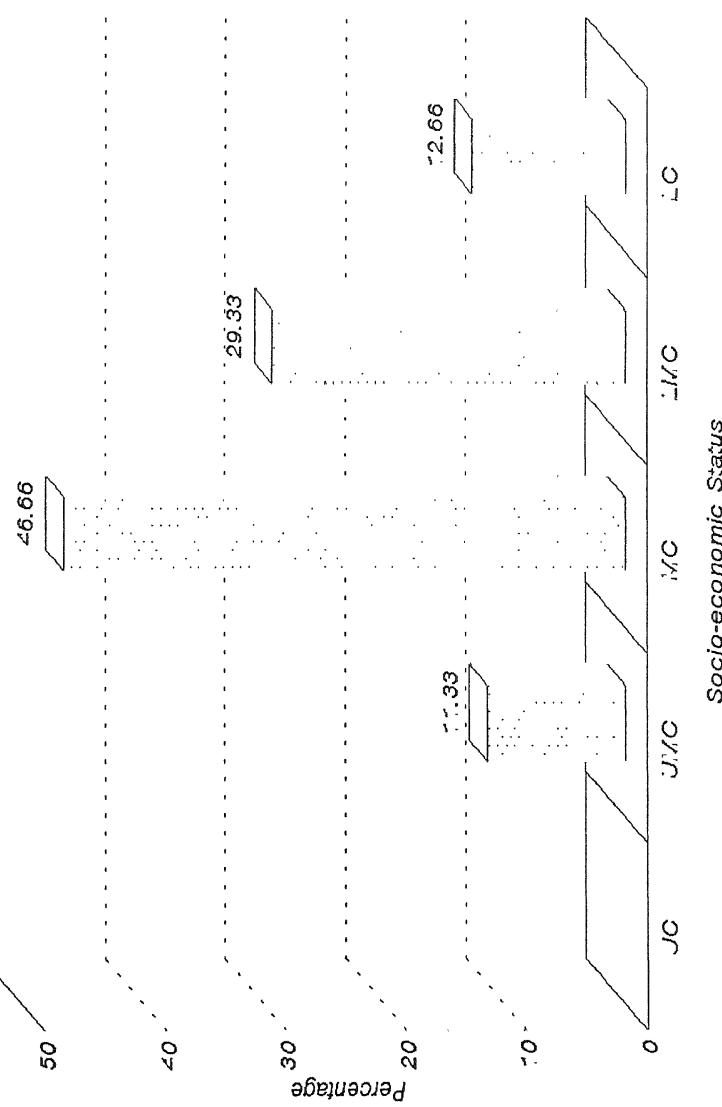


Electricity, Services, Oil, On-shore, Post office, Chits, Others

awareness programmes and also support services among the women milk producers in order to prevent the present tendency of school dropout and curb illiteracy.

### *Status Analysis of Women Milk Producers*

The socio-economic status of the women milk producers was estimated by using the scale of Udaipareek and Trivedi. The scale consists of variables such as caste, occupation, education, social participation, land, house, farm power, material possession, type and size of family. Depending on the scores Udaipareek had classified the status into five categories, namely, Upper Class (UC), Upper Middle Class (UMC), Middle Class (MC), Lower Middle Class (LMC) and Lower Class (LC). The data on the whole revealed that majority of the women milk producers (46.66 per cent) fell into the category of Middle Class, followed by 29.33 per cent Lower Middle Class and 12.66 per cent Lower Class and a less percentage (11.33 per cent) Upper Middle Class. None of the women milk producers reached the category of Upper Class, thereby indicating that the respondents mostly belonged to the Middle Class, Lower Middle Class and Lower Class (See Fig. 12). Thus, there is a need to uplift these families of women milk producers to the level of Upper Middle and Upper Class through the developmental programmes like dairy enterprise. These women milk producers were further classified into three SES groups, namely, Upper Middle Class, Middle Class and Lower Middle Class (UMC + LC), as against the four categories shown in the Table (Appendix F: Table 10) by combining the Lower Middle Class and the Lower Class into one category for the purpose of determining the association between the SES and the other explanatory variables of women dairy enterprise.



• JC: Upper Class, U/C: Upper Middle Class, MC: Middle Class, LC: Lower Class

## Figure 12. Socio-economic Status Shares of Income by Socio-economic Status

### *C. Awareness and Attitudes toward All Women Milk Producers' Cooperative Societies (AWMPCS)*

Cooperative movement has been conceived as the movement of the masses for the masses and by the masses. Emphasis on rural development with particular attention for the uplift of weaker sections of the society calls for cooperative effort. It is an economic movement with the social purpose aimed at ameliorating the economic conditions of the weaker sections. The cooperatives are widely dispersed and organised units at village level and have the potentialities to take up the economic requirements of rural people.

A vast majority of our population depends upon agriculture for livelihood. Agriculture and dairy are inseparable and development in one will be incomplete without the development in the other. Dairy development is the basic strategy for eradicating rural poverty by generating additional income to the weaker sections of the society. Dairy cooperatives, in particular AWMPCS, are most suitable for bringing about social and economic transformation in rural areas. The basic motive behind the dairy development programme is to raise the milk production as well as the socio-economic status of its members by providing the cooperative milk for market and arranging necessary technical inputs at reasonable rates. Cooperative dairy enterprise is a tool for changing the life-style of rural people and in particular rural women. Cooperative society seeks to set up an economic order in which one shall not exploit others nor is exploited by others.

Dairy development has been proved as a powerful instrument to further economic progress and social change. It has tremendous potential for the creation of mass employment opportunities in rural areas for those with limited education and therefore an important means for the alleviation of poverty areas. Since ages, in many areas quite

a large number of dairy and farm operations have been done by the farm women in the villages. Therefore, the rural development in its broadest sense and the agriculture and dairy development in particular are the major programmes to bring about socio-economic transformation to raise production and productivity and thereby increase the income of rural masses and improve their quality of life, begetting a genuine concern for the development of rural people in general and farm women in particular

National Commission on Agriculture in its report seeks to reserve a major share of dairy industry for the weaker sections and to adopt an integrated area development approach, mainly based on a system of producers' cooperative. The development of dairying is increasingly being undertaken through cooperatives as they seek to better the socio-economic conditions of the milk producers in a more effective manner.

Since the women constitute about 80 per cent of the population and are involved in dairying, the All Women Milk Producers' Cooperative Societies have been started in villages with the intention of empowering women and the families of women milk producers. The basic motive behind the milk cooperatives is to raise milk production as well as economic status of their members by providing the competitive market for milk and arranging necessary technical inputs for dairying at reasonable rate.

In the present study, it was intended to measure the awareness and attitudes of member women milk producers towards AWMPCS. Awareness is measured in relation to the knowledge of the women milk producers about several aspects of AWMPCS. Attitude is a personal disposition which impels an individual to react to some objects or situations. It is a more qualitative phenomenon. The attitudes of the members has a direct bearing on their efficiency, and effectiveness which affect greatly the success or failure of the programme.

Drope (1983) defined attitude as a mental disposition of the human individual to act for or against a definite object, while Allport (1935) defined attitude as a mental and neutral state of readiness organised through experience exerting a direct or an indirect influence upon the individual's response towards all objects in situations with which it is related. Shariff and Cantrid (1945) pointed out that a predisposition to action is an essential feature of an acceptable definition of attitude. Thurston (1946) defined attitude as the degree of positive or negative effect associated with psychological object. Kretch and Cruchfeld (1962) considered attitude as an enduring system of positive and negative evaluations, emotional feelings and pros and cons action tendencies with respect to social objects. Attitude has an important role to play with or among the people. Attitude for the present study is measured as the degree of either positive or negative feeling towards All Women Milk Producers' Cooperative Societies.

As mentioned earlier, the sample selected for attitudinal study comprised 150 member women milk producers of nine AWMPCS scattered in nine villages of Chandragiri Mandal. The data were collected on awareness, attitudes and perceived satisfaction of women milk producers towards AWMPCS. There were 28 questions on awareness with 18 sub-questions to be answered in terms of yes/no and also two questions on 3 point scale. Out of this, 12 were open-end questions.

The attitudes scale comprised 12 statements to be answered on 5 point scale (5-4-3-2-1) in terms of Strongly agree, Agree, Undecided, Disagree and Strongly disagree. In addition to this, 12 statements and 7 sub-questions were to be answered on a dichotomous scale for favourableness, score-1 was given for positive answer and '0' for negative answer. The higher the Mean score the greater was the favourableness of the response. The data were analysed in terms of Frequencies, Percentages, Mean scores, SDs,  $\chi^2$ , Correlations and Factor Analysis.

In section-A of this chapter, the results relating to the working pattern and support services of AWMPCS, followed by Section B bearing the results relating to the socio-economic conditions of the women milk producers were presented and discussed. Now, in this section C, the results relating to the awareness and attitudes of the women milk producers toward AWMPCS are presented and discussed in the juxtaposition of the answers given by the respondents. Comparative results between different SES groups were also presented.

***Awareness of AWMPCS.*** There were five clusters of items on this aspect. Table 4 gives information regarding the knowledge of women milk producers towards the items in cluster I to V. There were 8 items in cluster I with a score range of (0-12). These items pertained to the 'year of establishment of the society', 'whether membership to the cooperatives is voluntary', whether they know the president and paid secretary of the society by name, by person, and by person and name and who manages day to day affairs of their society.

The Mean score of the upper middle class respondents (Mean 10.12), Middle Class (Mean 11.24) and the Lower Middle class (Mean 11.10) and the total sample (Mean 11.05) indicate that the women milk producers belonging to all the three SES groups had greater knowledge in the above stated items regarding AWMPCS. Information was also elicited on the two open-end questions enquiring about to whom the membership would be given in AWMPCS. Hundred per cent of the Milk producers replied that only women were eligible to become the members of AWMPCS. When enquired about the membership fee of the society 94.67 per cent of the women milk producers had given correct answer (Rs.10+1) while 5.33 per cent could not specify the

Table 7

Awareness of Women Producers' Cooperative Societies: Clusters to V: Mean and SDs for the SES Groups and to the 'To a' Sample

SES groups	N	Awareness (clusters)					
		V		V		V	
		Inputs, services and supply to the society	Meetings and elections	Advantages of AV/PCSS	Total	Total	Total
Upper Socie Class	17	V SD	2.52 2.45	2.36 0.80	2.88 0.47	5.00 0.50	3.71 1.13
Middle Class	70	V SD	2.24 1.70	1.89 0.60	2.94 0.37	5.05 0.00	3.66 1.01
Lower Socie Class	53	V SD	2.10 1.68	1.89 0.62	3.00 0.50	4.98 0.12	3.79 0.95
Total	135	V SD	2.35 2.82	1.91 1.62	2.96 0.30	4.99 0.08	3.72 1.01

t-value: V/SOC-MSC = -1.895

F-ratio between SES groups = 4.33

correct amount. The President of the society was known to 95.33 per cent of the women milk producers while the paid Secretary to 98.00 per cent of the respondents. A less percentage (4.67 per cent) of the women milk producers did not know the President of the society and 2 per cent of the women milk producers had known the President by name and person, followed by 4 per cent by name and 2.67 per cent by person. Paid Secretary was known by name and person to 90.67 per cent of women milk producers, followed by 4.00 per cent by person and 3.3 per cent by name. This indicates that only a few women milk producers were indifferent towards leadership and majority were mingling with the office bearers.

In Cluster II, there were three items relating to the cooperative principles by-laws and functions of AWMPCS. The Mean score of the Upper Middle Class respondents (Mean = 2.06), Middle Class (Mean = 1.89), Lower Middle Class (Mean = 1.89) and the total sample (Mean = 1.91) indicate that the women milk producers belonging to all the three SES groups had very low knowledge in 'cooperative principles, by laws, and functions of AWMPCS'. To the question, whether they could state a few functions and by-laws of cooperative society, it was found that their knowledge was zero on such matters, while they had some knowledge in cooperative principles such as the principle of open and voluntary membership (90.00 per cent), followed by the principle of equitable distribution of surplus (51.33 per cent), and democratic governance (21.33 per cent). A less percentage of them knew the principle of limited return on equity (8 per cent) and cooperation between cooperatives (7.33 per cent). The data indicates that the women milk producers had inadequate knowledge about the functions of AWMPCS and hence, the officials of the dairy union should activate their extension education activity so as to give proper knowledge to the producers in respect of the principles, by-laws and functions of AWMPCS.

In cluster III there were three items enquiring into their knowledge about 'the supply of inputs and services to the members', 'supply of milk to the society for 90 days in a half an year', 'name and place of bank where society accounts are opened'. The Mean score of the women milk producers belonging to the Upper Middle Class (Mean = 2.88), Middle Class (Mean 2.94) and Lower middle Class (Mean = 3.00) and the total sample (Mean = 2.96) indicates that the milk producers of all the three SES groups had greater awareness of the inputs and services rendered by the AWMPCS.

Further, there was an open-end question eliciting information on the details of the inputs and services, rendered by the AWMPCS to the members. A higher percentage of the women milk producers (66.00 per cent) stated feed and fodder, followed by 56 per cent veterinary services, 30.00 per cent cattle insurance, 23.33 per cent cattle loan, 4 per cent green fodder and 1.3 per cent training, 0.66 per cent education. Further information was elicited on whether the members should supply milk to the society atleast for 90 days in a half year. It was found that hundred per cent of them had replied positively. There were another open-end question enquiring whether they knew that the AWMPCS were useful for the development of weaker sections. Hundred per cent of the women milk producers had replied positively.

In cluster IV, there were 5 items on meetings and elections of the AWMPCS. The items were whether 'they know that the AWMPCS were supposed to conduct meetings once in a month', whether 'the meetings were held regularly', whether 'the meetings were found useful' and 'how the elections of the society were held' and the score was 0-5. The higher the Mean score the greater was the knowledge. The Mean score of the women milk producers belonging to the Upper Middle Class (Mean = 5.00),

Middle Class (Mean = 5.00) Lower Middle Class (Mean = 4.98) and the total sample (Mean = 4.99) revealed that the women milk producers had maximum knowledge in respect of the meetings conducted and elections held for AWMPCS. Further results revealed that 99.33 per cent of the societies were holding meetings regularly and 98.67 per cent of the women milk producers participating in these meetings and found them useful. The women milk producers felt that the meetings were facilitated to discuss the problems of milk producers (65.33 per cent), to know the income, profit/loss of the society (25.33 per cent), to know the state of the affairs of the society (28 per cent) and to know the management of the dairy enterprise (4.67 per cent), 99.33 per cent of the women milk producers replied that the elections to the AWMPCS were held once in a year to elect the Directors and once in 3 years to elect the Presidents of the society.

In cluster V, there were 12 items enquiring about the advantages of AWMPCS such as 'increase in women's participation', 'good quality of milk will be ensured', 'appropriate rate for milk supply is ensured', 'all milk can be sold to the society in the village itself', 'milk production will be increased', 'low cost feed is made available by the society', 'payment of money will be made on time', 'self-employment opportunity for women will increase', 'vaccination facility will be made available', 'it saves individual's time', 'green grass is made available' by the society and the score was 0-12. The higher the Mean score the greater was the respondents' awareness.

The Mean score of the women milk producers belonging to Upper Middle Class (Mean = 3.71), Middle Class (Mean = 3.66), Lower Middle Class (Mean = 3.79) and the total sample (Mean = 3.72) indicates that the knowledge of women milk producers about the advantages of AWMPCS was poor. Further, the data was calculated in percentages.

The advantages of AWMPCS as revealed by women milk producers were green grass available (84.67 per cent), vaccination facility (84.00 per cent), cattle feed available (41.33 per cent), self-employment opportunity for women will increase (34.67 per cent), milk can be sold in the village itself (14.00 per cent), great saving time of individual (12.67 per cent), milk production will increase (10.00 per cent), payment will be made on time (4.67 per cent). Hundred per cent of the women milk producers felt that because of the AWMPCS women's participation in dairy enterprise had increased. The results suggest that the women milk producers are in need of extension education on making them to understand various aspects of AWMPCS including advantages.

The Mean scores on total awareness of women milk producers belonging to the Upper Middle Class (Mean = 23.76), Middle Class (Mean = 24.73), Lower Middle Class (Mean = 24.76) and the total sample (Mean = 24.63) indicate that they had better awareness towards AWMPCS, but the Mean differences between the three SES groups and also between the Upper Middle Class and the Lower Middle Class was not found statistically significant as revealed by F - ratio (1.4333) and t - value (1.189) respectively. The results indicate that all the women milk producers irrespective of their socio-economic status had some awareness of AWMPCS as revealed by the Mean scores of different SES groups.

Knowledge is the basis to adopt any innovation so it is a healthy sign that majority of the respondents had medium knowledge. However, the results reflect inadequate education of women milk producers. Therefore, officials should pay more attention on implementing 'Akshara Jyoti' concentrating on gainful knowledge rather than read and write. This may help the women milk producers assimilate information

provided through mass media and other sources and improve their comprehension during training with the help of study tours, field trips, success stories and video films which help them manage their dairy enterprise effectively. Thus, a strategy should be evolved increasing the awareness of AWMPCS and knowledge in dairy enterprise with the help of audio visual aids, organising exhibitions, educating and training them on scientific lines highlighting the nexus between knowledge and profit in dairy farming. These findings were in conformity with the reports of Gopal (1974), Singh and Dhaliwal (1980) and Raju (1991).

### *Attitudes toward AWMPCS*

Table 5 gives information regarding the attitudes of the women milk producers to the items in clusters I to III. There were 12 items in the cluster I intended to assess the attitudes toward 'impact of dairy cooperatives on milk producers' income', 'establishment of milk cooperatives lead to the development of rural poor and the dairy industry in villages', 'starting of milk cooperatives may improve the advisory services to milk producers', 'milk cooperatives help for higher income and better amenities in milk producers' families', 'milk cooperatives are the only alternative to fight the menace of middle men in milk distribution system', 'milk cooperative societies are the surest means through which services and inputs are assured to the milk producers', 'whether the non-members of the milk cooperatives also get equal veterinary services and supplies on par with the members', 'problems of milk producers are duly attended by the dairy cooperatives', 'whether there was more corruption among the office bearers of milk cooperative societies', 'the objectives of milk cooperative society is to provide all necessary facilities to milk producers' 'the contact between office bearer and milk producer is very little' and 'milk cooperative societies fetch high remuneration price for

Table 5

Attitudes and Perceived - Satisfaction toward  
 All Women Milk Producers' Cooperative Societies: Clusters I to III:  
 Mean and SDs for SES Groups and to the Total Sample

SES groups	N	Clusters			
		I		II	
		Attitudes toward AWMPCS (0-60)	Factors effecting AWMPCS (0-7)	Total (I+II) (0-67)	Self- perceived satisfaction (0-5)
Upper Middle Class	17	M 46.88	2.18	49.06	4.00
		SD 4.66	0.86	4.76	0.00
Middle Class	70	M 36.71	2.14	38.86	3.93
		SD 4.42	0.57	4.45	0.26
Lower Middle Class	63	M 30.78	2.27	33.05	3.76
		SD 4.55	0.78	4.59	0.43
Total	150	M 35.37	2.20	37.57	3.87
		SD 6.71	0.70	6.71	0.34
		t-value: 12.697**	0.406 <sup>NS</sup>	12.404**	4.437**
		F-ratio 89.508**	0.546 <sup>NS</sup>	86.546**	5.771**

milk producers'. The score range for this cluster of items was 12-24-36-48-60, where the higher the Mean score the greater was the favourableness of the response. In order to decide the favourableness, unfavourableness, doubtfulness of the attitudes based on the obtained score in each cluster of items, the multiples of each of the points in the rating scale (1-2-3-4-5) by the number of items were taken into account.

The Mean score for the total sample was 35.37 suggesting that the women milk producers as a whole had better favourable attitude to this cluster of items. The favourable response was higher with the Upper Middle Class respondents (Mean = 46.88) than the Middle Class (Mean = 36.71) and the Lower Middle Class (Mean = 30.78). The Mean differences between the Upper Middle Class producers and the Lower Middle Class respondents was statistically significant at 0.01 level of probability ( $t$ -value=12.697). Similarly the Mean differences between the three SES groups, viz., Upper Middle Class (UMC), Middle Class (MC) and Lower Middle Class (LMC) was also statistically significant at 0.01 level of probability (F-ratio 89.508). The favourableness was in the decreasing order from the Upper Middle Class to the Lower Middle Class and this trend was significant as revealed by F-ratio, indicating that the higher the socio-economic status the greater was the positive attitude towards All Women Milk Producers' Cooperative Societies.

Table 5 gives information regarding the seven items in Cluster II. These items pertain to the factors affecting the AWMPCS such as factions in the village, caste dominance, practice of proxy, acute water and fodder problems, lack of transport facilities, lack of adequate staff and trained personnel, and lack of infrastructure (lactometer, centrifuse, accommodation etc.). The score range for this cluster of items was 0-7.

The Mean score for the total sample (Mean = 2.20) revealed an unfavourable attitude to these cluster of items. But the unfavourableness borders on the doubtful attitudes. The unfavourableness response was higher with the Lower Middle Class respondents (Mean = 2.27), followed by the Upper Middle Class (Mean = 2.18), and the Middle Class (Mean = 2.14). The Mean differences between the three SES groups, and between the Upper Middle Class and the Lower Middle Class were not statistically significant as revealed by F-ratio (0.546) and t-value (0.406), indicating the pattern of response with all the three SES groups had maintained doubtful attitude towards the factors affecting the AWMPCS. Percentages were also calculated about the factors affecting the AWMPCS. A higher percentage of the women milk producers that is 64 per cent felt caste dominance, 60 per cent factions in the village, 50 per cent acute water and fodder problems, 30 per cent practice of proxy, 26.67 per cent lack of adequate infrastructure, 24.00 per cent lack of adequate trained personnel and a less percentage of women milk producers (8.00 per cent) had stated lack of proper transport facilities as the factors affecting the AWMPCS.

The Mean for the total attitudes of women milk producers of the total sample (Mean = 37.57) indicates better attitudes of the respondents towards all the items in clusters I and II together. The favourable response was higher with the Upper Middle Class respondents (Mean = 49.06), followed by Middle Class (Mean = 38.86) and the Lower Middle Class (Mean = 33.05). The favourableness was in the decreasing order from the Upper Middle Class to the Lower Middle Class. This trend was significant at 0.01 level as revealed by F-ratio (86.546) indicating that the higher the status the greater was the favourableness of the attitudes towards AWMPCS. The difference in Mean scores between the Upper Middle Class and the Lower Middle Class was statistically

significant at .01 level of probability (t-value -12.404). This trend is significant as the attitudes play an important role when the Women milk producers are expected to take active part in the promotion of AWMPCS for which they are members. Since attitude has a vital role to play, officials of the Milk Producers Cooperative Union and AWMPCS should encourage milk producers and women in particular by creating favourable attitudes towards dairy enterprise and AWMPCS by means of individual contacts, extension lectures and mass media.

In cluster III, there was one item on self-perceived satisfaction of the Women milk producers towards AWMPCS. The score was 0-5. The higher the Mean score the greater was the satisfaction towards AWMPCS as perceived by the women milk producers. Information was elicited by taking every thing into account as to how far the women milk producers were satisfied with the AWMPCS. The Mean score for the total sample (Mean 3.87) revealed that they had better satisfaction towards AWMPCS. The Mean scores of the Upper Middle Class (Mean 4.00), Middle Class (Mean 3.93) and Lower Middle Class (Mean 3.76) were in a decreasing order from the high to low SES indicating that the women milk producers belonging to the Upper Middle Class had perceived definitely greater satisfaction towards AWMPCS when compared to the Middle Class and the Lower Middle Class respondents. The Mean differences between the Upper Middle Class (Mean = 4.00) and the Lower Middle Class (Mean 3.76) was statistically significant at .01 level of probability (t value -4.437). The difference in Mean score between all the three SES groups was also statistically significant (F-ratio--5.771). This tendency is significant and suggests necessary steps have to be taken to strengthen the SES and also educate the women milk producers to form favourable attitudes towards AWMPCS as it reflects on the performance of dairy

enterprise. In fact the higher the awareness the greater was the attitudes, aspirations resulting in high achievement.

#### ***Background Variables - Awareness and Attitudes***

It was intended to present the association between the background variables and the awareness, attitudes and perceived satisfaction of the women milk producers toward AWMPCS. The background variables consisted of age, caste, occupation, education, social participation, land-holding, farm power, type of family, size of family and SES.  $\chi^2$  was found to determine the association between these background variables and selected variables, awareness and attitudes. The results are presented in Table 6.

***Age.*** The data presented in Table 6 revealed that there was no significant association between age and awareness ( $\chi^2 = 2.00056$ , df = 6,  $P > .05$ ), attitudes ( $\chi^2 = 3.01103$ , df = 6,  $P > .05$ ) towards AWMPCS. The higher percentage of women milk producers, that is, 41.67 per cent in the age group of 35 to 45 years had higher awareness and 33.33 per cent in the same age group also had higher favourable attitudes than the other age groups.

***Caste.*** The results revealed that there was no significant association between caste and awareness ( $\chi^2 = 4.31275$ , df = 4,  $P > .05$ ), while the association between caste and attitudes ( $\chi^2 = 16.0119$ , df = 4,  $P < .01$ ) towards AWMPCS was statistically significant. A higher percentage of the women milk producers belonging to the Forward Castes had high awareness (75 per cent), and greater favourable attitudes (94.44 per cent) towards AWMPCS and none of the respondents belonging to SCs had perceived high attitudes towards AWMPCS. Thus, it can be concluded that the awareness of the

Table 6

Background Varieties and Respondents' Awareness and Attitudes toward Women Producers' Cooperative Societies

		Awareness			Attitudes		
Background Varieties		Low (N=16)	Medium (N=120)	High (N=24)	Low (N=20)	Medium (N=120)	High (N=18); Co. (N=150)
(a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(b)	(3)	3 (8.75)	33 (30.00)	5 (20.83)	4 (27.33)	4 (33.33)	4 (22.22)
(c)	35-45	5 (37.50)	27 (37.27)	10 (4.67)	57 (38.00)	2 (33.33)	6 (27.33)
(d)	45-55	5 (32.50)	22 (21.82)	6 (25.00)	35 (23.33)	2 (16.67)	5 (38.00)
(e)	Age above 55	2 (2.50)	12 (10.91)	3 (2.50)	17 (15.33)	2 (16.67)	2 (13.33)
							$\chi^2 = 2.30056$
							$\chi^2 = 3.01133$
							$p > .05$
							$p > .05$
2. Taste							
(a)	Forward cases	5 (62.50)	58 (52.73)	18 (75.00)	86 (57.33)	3 (25.00)	66 (55.00)
(b)	Backward cases	2 (25.00)	40 (36.36)	5 (20.83)	49 (32.67)	6 (50.00)	22 (35.00)
(c)	Specified cases	2 (2.50)	2 (1.67)	2 (1.67)	3 (2.33)	2 (2.00)	5 (5.56)
							$\chi^2 = 2.31275$
							$\chi^2 = 1.63119$
							$p < .05$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>3. Socioeconomic</b>									
(a) Labour	2 (.250)	3 (.182)	5 (.250)	8 (.200)	5 (.67)	3 (10.83)	2 (9)	-	8 (.200)
(b) Caste occupation	6.25 (.3)	9.9 (.5)	4.7 (.25)	8.00 (.5)	25.000 (.5)	7.50 (.86)	-	-	2 (8.00)
(c) Education	62.50 (.3)	68.18 (.2)	68.33 (.2)	65.00 (.5)	33.33 (.5)	57.57 (.2)	83.33 (.3)	70.00 (.5)	55 (.00)
(d) Business / Service	8.75 (.2.9)	2.9 (.2.9)	-	0.00 (.0.00)	-	0.00 (.0.00)	6.67 (.6.67)	-	0.00 (.0.00)
<b>4. Education</b>									
(a) Literate	5 (.3.25)	6 (.55.45)	7 (.45.83)	77 (.5.33)	9 (75.00)	65 (54.7)	3 (.6.67)	3 (.2)	77 (5.33)
(b) Primary	9 (.56.25)	38 (.34.55)	58 (.45.83)	58 (.38.67)	25.00 (.5)	43 (35.83)	2 (.6.67)	3 (.6.67)	58 (38.67)
(c) Secondary College	2 (.2.50)	5 (.2.50)	2 (.8.33)	5 (.0.00)	-	32 (.0.00)	3 (.6.67)	3 (.6.67)	5 (.0.00)
<b>5. Social participation</b>									
(a) Member of one organisation	12 (.75.00)	88 (8.00)	9 (79.17)	9 (79.33)	9 (75.00)	96 (30.00)	12 (10)	12 (77.78)	12 (79.33)
(b) Member of more than one organisation	3 (.8.75)	8 (7.27)	3 (.2.50)	12 (9.33)	3 (8.33)	3 (8.33)	3 (8.33)	3 (6.67)	3 (9.33)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(c) $\hat{C}_2$ choice hoicer	(6.25)	$\hat{C}_2$ (2.73)	$\hat{C}_2$ (8.33)	$\hat{C}_2 = \hat{C}_2$				
				$\chi^2 = 2.029$	$\chi^2 > .05$	$\chi^2 = 3.38008$	$\chi^2 = 3.38008$	$\chi^2 > .05$
3. <i>Land holding</i>								
(a) No land	2 (2.50)	9 (8.18)	2 (8.33)	.3 (8.67)	.3 (8.67)	.3 (33.33)	.9 (7.50)	-.3 (8.67)
(b) 1-5 acres	8 (50.00)	52 (9.99)	0 (2.67)	.0 (48.00)	.0 (25.00)	.0 (53.33)	.5 (27.78)	.72 (48.00)
(c) 5-10 acres	3 (.875)	26 (23.62)	5 (26.83)	.3 (22.67)	.3 (8.33)	.3 (23.33)	.5 (27.78)	.34 (22.67)
(c) 10-15 acres	3 (.875)	2 (9.39)	7 (29.17)	.3 (26.67)	.3 (33.33)	.3 (5.83)	.8 (27.78)	.3 (20.67)
				$\chi^2 = 2.3783$	$\hat{C}_2 = 6$	$\chi^2 = 24.5556$	$\hat{C}_2 = 6$	$\hat{C}_2 < 6$
7. <i>Farm Power</i>								
(a) 1-2 mil. c1 animals	12 (87.5)	87 (9.39)	20 (83.33)	.2 (80.67)	.2 (80.67)	.2 (33.00)	.2 (80.83)	.2 (66.67)
(b) 3-4 mil. c1 animals	5 (6.25)	5 (3.62)	3 (2.50)	.9 (2.67)	.9 (2.67)	-.9 (2.67)	.4 (2.50)	.4 (22.22)
(c) 5-6 mil. c1 animals	8 (6.25)	8 (7.27)	7 (4.7)	.3 (6.67)	.3 (6.67)	-.3 (6.67)	.2 (6.67)	.2 (6.67)
				$\chi^2 = 6.67866$	$\hat{C}_2 = 4$	$\chi^2 > .05$	$\hat{C}_2 = 4$	$\hat{C}_2 > .05$

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>8. Type of Family</b>								
(a) Nuclear	9 (56.25)	52 (49.09)	52 (56)	52 (58.33)*	77 (55.33)	9 (75.00)	63 (52.50)	5 (27.78)
(b) Joint	7 (43.75)	5 (50.91)	6 (4.67)	6 (2.67)	73 (25.33)	3 (27.50)	3 (72.22)	73 (48.67)
	$\chi^2 = 0.84697$	$\hat{c}_{\bar{z}} = 2$	$\hat{c}_{\bar{z}} > .25$		$\chi^2 = 6.3122$	$\hat{c}_{\bar{z}} = 2$	$\hat{c}_{\bar{z}} < .05$	
<b>9. Size of Family</b>								
(a) $\bar{z} \geq 0.5$	12 (87.50)	83 (75.45)	6 (66.67)	13 (75.33)	13 (83.33)	93 (77.50)	10 (55.56)	13 (75.33)
(b) $> 5$	2 (2.50)	27 (24.55)	8 (33.33)	37 (24.67)	2 (6.67)	27 (22.50)	8 (6.67)	37 (24.67)
	$\chi^2 = 1.81565$	$\hat{c}_{\bar{z}} = 2$	$\hat{c}_{\bar{z}} > .05$		$\chi^2 = 2.26564$	$\hat{c}_{\bar{z}} = 2$	$\hat{c}_{\bar{z}} > .05$	
<b>10. SES</b>								
(a) Upper middle class	2 (25.00)	10 (9.39)	3 (2.50)	7 (1.33)	0.00 (0.00)	2 (.67)	5 (83.33)	7 (5.33)
(b) Middle class	6 (37.50)	53 (48.18)	5 (4.67)	70 (46.67)	0 (8.33)	66 (55.00)	3 (6.67)	70 (46.67)
(c) Lower middle class	6 (37.50)	17 (22.73)	5 (2.67)	63 (2.00)	1 (9.67)	52 (3.33)	- (6.67)	63 (2.00)
	$\chi^2 = 5.12976$	$\hat{c}_{\bar{z}} > .05$	$\hat{c}_{\bar{z}} = 4$		$\chi^2 = 1.32753$	$\hat{c}_{\bar{z}} = 2$	$\hat{c}_{\bar{z}} < .05$	

respondents about different aspects of women milk producers' cooperative society was independent of their caste while the attitudes of the respondents were associated with their caste

***Occupation.*** A higher percentage of the women milk producers whose occupation was cultivation had perceived higher awareness (83.33 per cent) and favourably higher attitudes (83.33 per cent) than the other occupational groups. This indicates that the awareness, attitudes were not independent of occupation. But the association between occupation and awareness was not statistically significant ( $\chi^2$  – 5.2464, df – 6, P > .05), while the association between occupation and attitudes was statistically significant ( $\chi^2$  – 21.91385, df – 6, P < .01). Perhaps the cultivators for generations together were highly involved and experienced in agriculture and dairy together, as a result, there appears to be significant association between occupation and attitudes.

***Education.*** Regarding the educational level the women respondents with the primary education (45.83 per cent) and illiterates (45.83 per cent) had higher awareness than the secondary/college (8.33 per cent), indicating that the awareness of respondents about different aspects of AWMPCS was independent of their education. The association between awareness and education was not statistically significant ( $\chi^2$  – 4.35427, df – 4, P > .05).

Similarly, the women milk producers who had primary education had greater favourable attitudes (66.67 per cent) towards various aspects of AWMPCS. A higher percentage of the women milk producers who were illiterates (75.00 per cent) had low

attitudes followed by primary (25 per cent) and none of the women milk producers with secondary and college education had low attitudes. The association between education and attitudes toward several aspects of AWMPCS was statistically significant ( $\chi^2 = 11.25554$ , df = 4, P < .05).

***Social Participation.*** A higher percentage of women milk producers, who happened to be the members of one organisation had higher awareness (79.17 per cent) and higher attitudes (77.78 per cent) than the milk producers who were members of more than one organisation and office holders indicating that the awareness and attitudes towards various aspects of AWMPCS was independent of their social participation. The association between the social participation and awareness ( $\chi^2 = 4.21029$ , df = 4, P > .05) and attitudes ( $\chi^2 = 3.38008$ , df = 4, P > .05) was not statistically significant.

***Land-holding.*** Coming to the land holding, a higher percentage of women milk producers who possessed land-holding of 1-5 acres had higher awareness (41.67 per cent) than the producers of 5-10 acres (20.83 per cent), and 11-15 acres (29.17 per cent) indicating that the awareness of various aspects of AWMPCS was independent of land-holding and the association was not statistically significant ( $\chi^2 = 2.31783$ , df = 6, P > .05).

As regards the attitudes, a higher percentage of women milk producers who possessed the land holdings of 11-15 acres had greater attitudes (44.44 per cent) than the land holdings of 5-10 acres (27.78 per cent) and 1-5 acres (27.78 per cent), indicating that the higher the land-holding the greater was the favourable attitude

towards dairy enterprise. The association between land-holding and attitudes was statistically significant ( $\chi^2 = 24.5556$ , df = 6, P < .01).

**Farm Power.** The data indicate that a higher percentage of women milk producers who possessed 1-2 milch animals had higher awareness (83.33 per cent) and favourably higher attitudes (66.67 per cent) than the respondents who possessed 3-6 milch animals. Perhaps it may be due to the fact that the weaker sections who happened to be the members of AWMPCS and who started dairy as a new enterprise might have attended the training programmes and participated in extension lectures resulting in high awareness and favourable attitudes towards AWMPCS. Thus, awareness and attitudes towards various aspects of AWMPCS were independent of their farm power. Even the  $\chi^2$  revealed that the association between farm power and awareness ( $\chi^2 = 0.67866$ , df = 4, P > .05) and attitudes ( $\chi^2 = 5.36332$ , df = 4, P > .05) was not statistically significant.

**Type of family.** A higher percentage of women milk producers (58.33 per cent) who were living in nuclear families had high awareness, but the association between awareness and type of family was not statistically significant ( $\chi^2 = 0.84697$ , df = 2, P > .05) indicating that the awareness of respondents about the various aspects of AWMPCS was independent of the type of family. With regard to the attitudes a higher percentage of women milk producers who were living in joint families (72.22 per cent) had high attitudes, followed by nuclear families (27.78 per cent). The association between attitudes and joint family was statistically significant at .05 level of probability ( $\chi^2 = 6.3102$ , df = 2, P < .05).

*Size of family.* The association between the size of family and awareness ( $\chi^2 = 1.81565$ , df = 2, P > .05) and attitudes ( $\chi^2 = 4.26564$ , df = 2, P > .05) was not statistically significant revealing that the awareness and attitudes of women milk producers about various aspects of AWMPCS was independent of the size of their families.

*SES.* The association between SES and awareness ( $\chi^2 = 5.12976$ , df = 4, P > .05) was not statistically significant indicating that the awareness of respondents to various aspects of AWMPCS was independent of their SES. As regards the attitudes the women milk producers who belonged to the Upper Middle Class (83.33 per cent) had higher attitudes than the Middle Class (16.67 per cent) and the Lower Middle Class (none), indicating that the favourableness of attitudes towards various aspects of AWMPCS was dependent on one's socio-economic status. The association between SES and attitudes was statistically significant at .01 level of probability ( $\chi^2 = 113.27513$ , df = 4, P < .01).

Table 6 shows that none of the background variables, age, caste, occupation, education, social participation, land-holding, farm power, type of family, size of family and SES together had significant association with the awareness of various aspects of AWMPCS. While attitudes had significant association either at .01 or .05 level of probability with education, land-holding, caste, occupation, type of family and SES, whereas variables age, social participation, farm power, size of family were not having statistically significant association with the attitudes.

From the findings it was amply demonstrated that a very low percentage of the women milk producers had high awareness towards aspects of dairy enterprise/AWMPCS. Since awareness reflects on forming favourable attitudes towards various aspects of AWMPCS, it may be suggested that the officials should have more individual contacts with the members and also strengthen extension programmes so as to bring high awareness and greater favourable attitudes towards various aspects of dairy enterprise which will ultimately result in better dairy performance. Since, the SES and attitudes are significantly associated there is every need to strengthen the important SES variables such as education, land-holding, farm power and occupation.

**D. *Emergence of Women Dairy Enterprise.***

(i) **Resource-support System.** In the present study, the resource-support system consists of the aspects relating to previous work experience and family assistance, farm inventory and dairy equipment, motivational factors, veterinary and health services and support services. There were five clusters of items on this aspect

Table 7 gives information regarding the resource - support system of dairy enterprise to the clusters I to V. Cluster I consisted of two items on motivational factors such as how they got the idea of establishing dairy enterprise, the factors that have motivated them to start the dairy enterprise such as family members, relatives and friends, advise by the officials of AWMPCS, facility in obtaining financial help, to utilise the dairy skill, economic need and heavy demand of milk. The score for these items was ranging from 0-6 and the higher the score the greater was the favourableness of response.

The Mean score for the total sample of respondents (Mean – 2.57) which is far below the maximum score indicates that the women milk producers were not adequately motivated. The pattern of response was in increasing order from the Upper Middle Class (Mean – 2.00) to the Middle class (Mean – 2.11) and to the Lower Middle Class (Mean – 3.24). This indicates that the women milk producers belonging to the Lower Middle Class had motivated better than the milk producers belonging to the Middle Class and the Upper Middle Class. The difference in Mean scores between the Upper Middle Class and the Lower Middle Class was statistically significant at 0.01 level of probability (t-value 5.618). Similarly the difference in Mean scores

Table 7

Resource-support System and Emergence of Women Dairy Enterprise:  
Clusters to V. Mean and SDs for the SES Groups and the ToA Sample

SES Groups	N	Motivational Factors (0-6; .3-6)	Clusters					
			V		V		V	
			Previous Work Experience and Family Assistance (0-6; .3-6)	Farm Inventory and Dairy Equipment (0-5; .3-5)	Veterinary and Teaching Services (0-5; .3-5)	Veterinary and Teaching Services (0-7; .3-7)	Support Services (0-13; .3-13)	
Upper Victim Class	17	Y SD	2.00 .57	5.76 .28	11.65 .19	5.24 .16	6.00 .50	31.65 2.68
Victim Class	70	Y SD	2.11 .73	6.11 .57	11.63 .57	4.94 .19	7.07 .72	31.87 3.08
Lower Victim Class	63	Y SD	3.24 0.94	5.25 .23	10.68 .48	4.83 .98	9.36 2.06	33.06 3.19
ToA	50	Y SD	2.57 .00	5.83 .59	11.23 .56	4.93 .11	7.79 2.7	32.35 3.15
z-ratio	34.543**		9.003**		7.256**	0.913**	27.652**	2.905NS
z-value	5.518**		3.77**		2.816**	1.329NS	6.868**	1.851NS

between all the three SES groups was also statistically significant (F-ratio 34.543). The high Mean score of Lower Middle Class respondents indicates that the officials had contacted them with their frequent visits as it is the motto of the AWMPCS to encourage weaker sections to take part in dairy enterprise so as to improve their family living conditions.

The results were also presented in percentages to have a clear picture about motivational factors. A higher percentage of women milk producers (85.33 per cent) had reported 'facility in obtaining financial help' as the motivating factor to take up dairy enterprise, followed by 66.00 per cent 'advise by the officials of AWMPCS/Milk Producers' Cooperative Union, 42.67 per cent of women milk producers were motivated by family members, relatives and friends; 48.00 per cent of women milk producers reported economic need as the factor for starting dairy enterprise, and 14.67 percent of the women milk producers had established dairy enterprise to utilise their dairy skill. On the whole, it is clear from the results that the majority of women milk producers were motivated by the officials to start the dairy enterprise and they started it to avail themselves of the financial help. Since officials were found as the motivating force it is apparent on the part of the Union to take necessary steps to have more visits and contacts with the women milk producers to motivate them as a force for the success of dairy as a powerful sector along with the farming. This will help the families grow with proper nutritional status and also empower the women in socio-economic aspects.

Cluster II relates to previous experience in dairy and assistance from family members. It consisted of five items, 'whether the respondents were engaged in milk

business before starting the society' and 'how long they were engaged in the dairy business', whether 'dairy is their primary occupation', 'the persons helping them in dairy business', and 'time spent on dairy' The score for these items was 0-16. The higher the Mean the greater was the favourableness of response.

The Mean score for the total sample 5.83 which is not even half of the maximum score indicates that their previous work experience and the assistance from family members towards dairy activity was poor. Perhaps it may be due to the recent establishment of AWMPCS and the emergence of dairy as an enterprise among the weaker sections. Regarding the SES groups, the favourables was in decreasing order from the Upper Middle Class (Mean 6.76), to the Middle Class (Mean 6.11) and to the Lower Middle Class (Mean 5.25) indicting that the Upper Middle Class had better experience in dairy and also better assistance from the family members than the other two SES groups. The Mean differences between SES groups was statistically significant (F-ratio 9.003) at 0.01 level of probability.

There were a few open-end questions for which the results were reported in percentages. Information was elicited about when they had become the members of AWMPCS. A higher percentage of the women milk producers (38.67 per cent) had become members in 1986, followed by 26.67 per cent in 1987, 19.33 per cent in 1984 and 15.33 per cent in 1985, indicating that majority of them (65.34 per cent) had 7 to 8 years experience (at the time of investigation) as members of AWMPCS. Further information revealed that before starting the Milk Producers Societies in their respective village, 20.00 per cent of these women respondents were engaged in dairy business. Out of them 14.67 per cent were doing this milk business for 10-15 years,

followed by 4 per cent 15-20 years and an insignificant percentage of women milk producers (1.33 per cent) were engaged in milk business for 20-25 years, indicating that the rest of the 80 per cent milk producers have emerged as dairy entrepreneurs only after establishing the AWMPCS in their respective villages. In fact, it was revealed that the dairy was a primary occupation only in respect of 4 per cent of the women milk producers.

Further, information on family assistance revealed that 22.00 per cent of the women milk producers reported that they were getting help in their milk business from their husbands and the time ranged from two hours (2.67 per cent), to one hour (12.67 per cent), and half an hour (6.67 per cent) per day, while 30 per cent of women milk producers were getting help from the elders of the family (mother and father, grand mother and grand father, brothers and sisters, mother-in-law and father-in-law) and the time per day ranged from 2-hours (6.67 per cent) to one hour (11.33 per cent) and half an hour (12 per cent). They were also getting help from the school-going children, both boys (21.33 per cent) and girls (30.67 per cent) and the time spent was ranged from half an hour to one hour and also school drop-outs and non-starters, both boys (32 per cent) and girls (38.67 per cent). Among them the girls were spending time ranging from two hours (17.24 per cent) to one hour (50.00 per cent) and half an hour (32.76 per cent), while boys were spending time half-an-hour (54.17 per cent) to one hour (45.33 per cent). This data reveal that the children were assisting more than the other members of the family and in particular the girls, indicating that the dairy enterprise was more associated with the women-work force. Interestingly when they were engaged in farm work on field the neighbours were also helping them.

There was another open-end question eliciting information about how much time the women milk producers were spending in a day on different activities relating to home, farm and dairy. The results revealed that a higher percentage of women milk producers (40 per cent) were spending 2-3 hours in a day on dairy activity, followed by 37.33 per cent 1-2 hours and 22.67 per cent 3-4 hours. As the domestic work, a higher percentage of women milk producers were spending 1-2 hours (40 per cent), followed by 36.67 per cent 3-4 hours a day and 23.33 per cent 2-3 hours in a day.

Regarding the farm work, a higher percentage of women milk producers were spending 3-4 hours in a day (50.00 per cent), followed by 20 per cent 4-5 hours in a day. A higher percentage of women milk producers (29.33 per cent) were spending 1 hour on childrens' education, followed by 20 per cent half an hour in a day. While 50.67 per cent did not spend any time on children's education, which does not indicate a progressive trend. A less percentage of women milk producers were spending 7-8 hours per day (6.00 per cent) on daily wage work as labourers, followed by 4.67 per cent 5-6 hours. In petty business (vegetable vendors, small shopkeepers) the women milk producers were spending 8-9 hours in a day. Another 8.00 per cent of the milk producers were engaged 8-9 hours in a day to carry out their caste occupation, dhobi and pot-making, while 6.67 per cent in tailoring and 10.00 per cent in service and spending 6-7 hours per day.

With regard to the recreation and social participation a higher percentage of women milk producers (60.00 per cent) were spending 1-2 hours in a day on recreation, followed by 40.00 per cent of respondents 2-3 hours in a day on recreation and leisure time activities; while 6.00 per cent of the women milk producers were actively involved in Mahila Mandal and Society activities for 1-2 hours in a day and

5.33 per cent of women producers 2-3 hours in Mahila Mandal Cooperative Societies activities in their respective villages. The data revealed that a majority of women milk producers were spending most of their time on farm work, followed by domestic work and dairy activity. They were spending very less time on children's education which is an important aspect of family.

Table 7 presents data relating to the items in cluster III. There were 3 items in cluster III relating to farm inventory such as number of she buffaloes, desi cows, cross-bred cows possessed by the women milk producers before and after membership and dairy equipment such as water tubs, baskets, buckets, milking pails, feeding troughs, ropes, earthen pots and separate cattle shed possessed by them, and also the problems in feeding the animals and the score was 0-15. The higher the Mean score the greater was the favourableness of the response.

The Mean score for the total sample (Mean = 11.23) which is close to the maximum score indicates that the women milk producers had adequate farm inventory and dairy equipment. The response pattern is in decreasing order from the Upper Middle Class (Mean = 11.65), to the Middle Class (Mean = 11.63), and to the Lower Middle Class (Mean = 10.68) indicating that the Upper Middle Class milk producers had better farm inventory and dairy equipment than the Lower Middle Class.

Information relating to farm inventory both wet and dry milch animals together is also presented in percentages. A less percentage (20.00 per cent) of women milk producers had possessed milch animals before their membership in Milk Cooperative Society, out of them 12.00 per cent had she buffaloes (N=24) as against 30.67 per cent of women milk producers who had she buffaloes (N=270) after their membership in

AWMPCS; 8.00 per cent of the women milk producers had possessed cows (N=18) before membership as against 20 per cent of the women milk producers (N=250) after membership; 26 per cent of them had desi cows (N=247) followed by 23.33 per cent cross-bred cows (N=79) after their membership in AWMPCS as against none of the milk producers who had possessed desi cows and cross-breed cows before starting their membership in AWMPCS. The results indicate that there was a greater increase in the herd size of the milch animals in the families of women milk producers numbering from 42 before membership to 846 after membership, thus there was an increase of 20 times in herd size of their milch animals (See Fig 13). This trend which is an admirable achievement on the part of AWMPCS and milk producers is very significant because of the establishment of AWMPCS the dairy enterprise has emerged with a tremendous increase in the size of the milch animals in the families of women milk producers.

Information was elicited about how much money the women milk producers had invested on dairy business. A higher percentage of women milk producers (78 per cent) had invested an amount ranging from Rs. 4000 to Rs. 8000, followed by 12.67 per cent who had spent below Rs. 4000, and 9.33 per cent greater than Rs. 8000/- These results indicate the progressive outlook of the women milk producers and their genuine intentions to expand the dairy enterprise.

There was an open-end question enquiring into the problems of feeding the animals. A higher percentage of women milk producers (35.92 per cent) had reported non-availability of green fodder, dry fodder and concentrates, followed by 34.95 per cent high cost of inputs, 29.13 per cent reported poor quality of green fodder, dry fodder and concentrates.

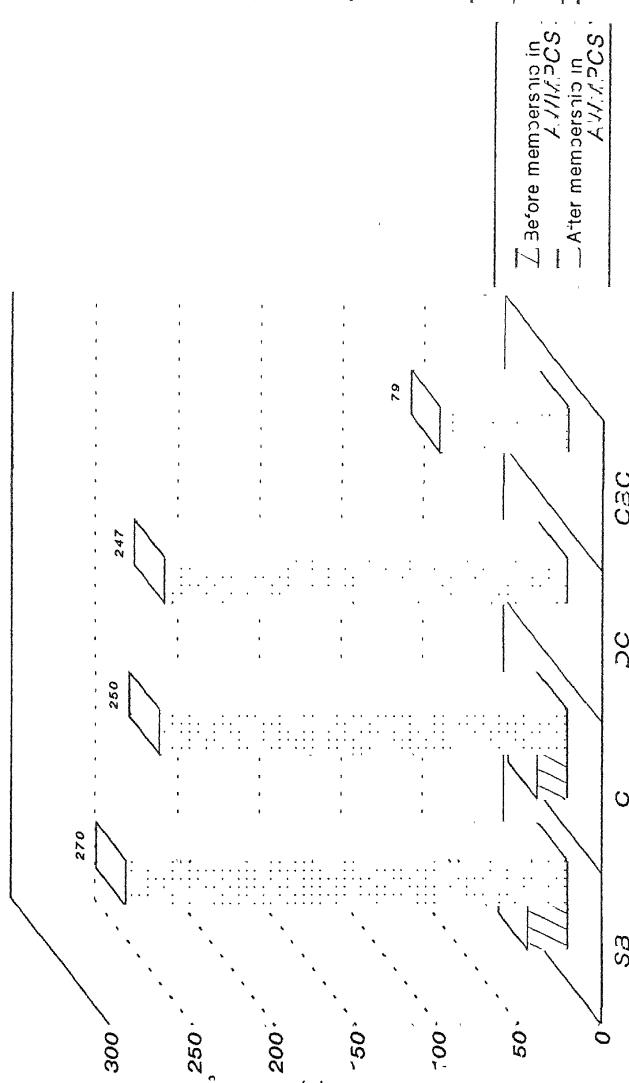


Fig. 3. Herd size of animals  
S2: She-Brāhmaes, C: Cows, JC: Desi Cows, C3C: Cross-breed Cows

With Animals

Majority of the Indian cattle are undressed. In India, stall feeding is rare. The pastures for grazing are insufficient and the cattle in rural areas are hopelessly overstocked. Owing to the increase in the requirements of the food for human population, areas where grazing is possible have steadily diminished. On account of this it has become a difficult task to provide cattle population with sufficient grazing land. Thus, ever growing human food requirements have cut deep into the resources for cattle feeding. The clashing interests of both the human beings and the cattle population have thus created a vicious circle which is difficult to be broken.

The natural grazing lands are usually to be found within the areas classified as 'forests', 'cultivable waste' and 'not available for cultivation'. But forests as a source of fodder supply are of limited value due to stringency of the forest laws and the policy of cultivable waste land, though another source of fodder supply, is useless for grazing purposes because it does not produce any useful herbage. Similarly a very large portion of the land marked as "not available for cultivation" is not useful for grazing because it is utterly barren. Hence, natural grazing grounds are absolutely lacking.

It is striking paradox that the States which have the smallest per capita crop areas maintain the largest number of cattle, i.e., the deficiency in cattle food is greater in the densely populated areas than in the thinly ones. According to the Planning Commission "the quantity of fodder available is about 78 per cent of the requirements, while the available concentrates and feed would suffice only for 28 per cent of the cattle".

The results suggest that the Milk Producers Union should provide the inputs at low cost and they must see every milk producer should have either an individual piece of land-holding or cooperative joint land-holding to grow green fodder. The Union should also make special effort to improve the quality of fodder and concentrates.

Further, the results revealed that hundred per cent of women milk producers had possessed necessary dairy equipment to run the dairy enterprise and 63.33 per cent of milk producers had possessed separate cattle shed. The women milk producers provided separate cattle sheds for milch animals after becoming members of the milk society. This may be due to their better financial condition coupled with the availability of sufficient place for construction of cattle shed.

Table 7 presents information relating to the items in cluster IV. It consisted of four items on Veterinary and Health services. The items are, 'whether they have veterinary hospital in their village', 'whom do they consult when milch animal was sick', 'whether they leave enough milk for the calf', 'how much money did they spend on health care of milch animals', and 'whether they, satisfied with the veterinary services available', and the score was 0-7. The higher the Mean score the greater was the favourableness of response.

The Mean score of the total sample (Mean 4.93) which is close to maximum score indicates that the veterinary and health services are available to majority of the women milk producers. The pattern of response is in decreasing order from the Upper Middle Class (Mean 5.24), to the Middle Class (Mean 4.94), and to the

Lower Middle Class (Mean = 4.83) indicating that the Upper Middle Class milk producers were getting better veterinary services than the other two SES groups. The difference in Mean scores between the SES groups and also between the Upper Middle Class and the Lower Middle Class was not statistically significant as revealed by F-ratio (0.913) and t-value (1.329).

There were two open-end questions enquiring about whom did they consult when the milch animal was sick. A higher percentage of women milk producers (92.67 per cent) were consulting veterinary doctor, while 7.33 per cent rural quack. Majority of the women producers (72.67 per cent) had reported satisfaction towards veterinary services. Majority of women milk producers that is 70.67 per cent were fully satisfied with the doctor's help for animals' health care but a few (29.33 per cent) women producers expressed their dissatisfaction and reported that the doctors were not available in time when the milch animals fell severely sick (13.33 per cent), harassment of doctors (7.33 per cent) and 8.67 per cent of the milk producers reported that the veterinary hospital was far away and hence difficult to consult the doctors in the event of necessity.

Regarding the expenditure on animal's health care (per annum), majority (58.66 per cent) were spending Rs. 30-40 and 17.33 per cent of members Rs. 20-30, 15.33 per cent of members above Rs. 40/- and 6.6 per cent Rs. 10-20. Very few (2 per cent) members were spending Rs. 5-10. If the milch animal was in serious condition, they bought some medicines with their own money and a part of medicines was given free in the hospital. It appears that the women milk producers were getting adequate

health care and the expenditure incurred by them on the health care of the milch animals was within their capacity.

Cluster V consisted of 13 items on support services rendered by AWMPCS such as 'supply of balanced feed', 'grass seeds', 'green fodder', 'seedlings', 'Veterinary aid', 'artificial insemination', 'pregnancy tests for animals', 'training programme for women members', 'field trips', 'help in getting loan from bank', cross-breedings, 'financial benefits' and 'emergency veterinary aid'. These support services were already discussed at length in Section A while discussing about the working pattern and support system of All Women Milk Producers Cooperative Societies. The score for these items was ranging from 0-13. The higher the Mean score the greater was the support services availed.

The Mean score of the total sample (Mean 7.79) as against the maximum score of 13 indicates that the women milk producers were not getting sufficient support services from the AWMPCS. The pattern of favourable response was in increasing order from the Upper Middle Class (Mean 6), to the Middle Class (Mean 7.07), and to the Lower Middle Class (Mean 9.06) indicating that the women milk producers belonging to the Lower Middle Class were getting themselves of greater support services than the other SES groups. The main objective of this mass cooperative movement is to help the weaker sections and therefore, they were provided with the maximum support services when compared with other two SES groups. This will help for upliftment of weaker sections and also for the poverty alleviation. The Mean differences between the three SES groups (F-ratio 27.654) and

between the Upper Middle Class and the Lower Middle Class ( $t$  value=6.868) was statistically significant at .01 level of probability.

Percentages were also found to know to what extent each of the support services was availed of by the member women milk producers. A higher percentage of women milk producers (74.00 per cent) reported that they had availed themselves of the facility of artificial insemination, followed by 62.67 per cent pregnancy tests, 61.33 per cent emergency veterinary aid, 60.00 per cent supply of green fodder, 52.67 per cent cross breeds, 52.00 per cent training programmes for women members, 48.00 per cent balanced feed, 41.33 per cent seedlings, 40.00 per cent grass seeds, 25.33 per cent financial benefits, and another 25.33 per cent veterinary aid, 20.67 per cent help in getting loan from bank and 18.67 per cent field trips. These results revealed that the women milk producers were not getting adequate support-services in respect of loan from the banks, balanced feed, grass-seeds, seedlings and other financial benefits as members of AWMPCS. Thus there is every need for Cooperative Milk Union, NIDDB, APDDC to strengthen the existing support services and the same to reach all the women milk producers so as to empower them to achieve better dairy performance.

On the whole, the Mean score of the total sample (Mean 32.35) which is half of the maximum score indicates that the poor resource-support system was availed of by the women milk producers. The trend was same with all the SHS groups though it is in the increasing order from the Lower Middle Class (Mean 33.06), to the Middle Class (Mean 31.87) and to the Upper Middle Class

(Mean 31.65) but the difference in Mean scores between the three SES groups (F-ratio 2.905) and also between the Upper Middle Class and the Lower Middle Class (t value 1.854) was not statistically significant. These results indicate that the weaker sections were also not deriving full benefits as members of AWMPCS and hence steps should be taken by the Union, NDDB, APDDC to provide full benefits to the weaker sections in the first instance and then to be extended to the Middle Class and to the Upper Middle Class women milk producers of AWMPCS.

*(ii) Herd Size, Milk Yield and Dairy Income.* Table 8 gives information on herd size, milk yield and dairy income. *Herd size* refers to the number of wet animals possessed by the women milk producers at the time of investigation. The total milch animals were computed in respect of each respondent. The average milch animals was computed based on individual position for all the 150 respondents. *Milk Yield* refers to the actual quantity of milk produced by the members in terms of the litres per day (both morning and evening). The average milk production was computed based on individual production for all the 150 women milk producers. As regards *Dairy Income* the gross dairy income, dairy expenditure (recurring) of each respondent was calculated. Net dairy income of each respondent's family (gross dairy income minus dairy expenditure) was also calculated. The total income of the respondent's family before starting dairy enterprise was calculated. Per cent increase in the income of the members after starting dairy enterprise was also estimated.

Results relating to herd size are presented in Table 8. The Mean of the total sample for this item (Mean = 1.75) indicates that on an average the women milk producers had possessed less than 2 wet animals at the time of investigation. The pattern of response of SFS groups was in decreasing order from the Upper Middle Class (Mean = 2) to the Middle Class (Mean = 1.90) and to the Lower Middle Class (Mean = 1.51) indicating that the higher the socio-economic status the greater was the capacity to possess more number of milch animals. The difference in Mean scores between the Upper Middle Class and the Lower Middle Class was statistically significant ( $t$  - value = 2.981). Similarly, the Mean differences between all the three SFS groups were also statistically significant ( $F$ -ratio = 7.261). The results indicate that in spite of special inputs given to the weaker sections the Lower Middle Class respondents were not able to maintain even two wet animals. Even in general the respondents did not possess on an average more than two wet animals. These results indicate that the Union, NDDB and other allied organisations should formulate programmes in such a way that dairy could be taken as a primary occupation in the families of the poorest of the poor where both husband and wife along with their children used to participate in such activities. This implies more inputs have large herd size of wet animals.

Table 8 presents the results relating to *milk yield* per day. The Mean score of the total sample (Mean = 11.27) indicates that the milk yield per day appeared to be economically viable for the average of less than two wet animals possessed by them. The pattern of response from the Upper Middle Class (Mean = 12.53) to the Middle Class (Mean = 12.47) and to the Lower Middle Class (Mean = 10.32) was in decreasing order indicating that the milk yield was more in the families of Upper Middle Class but the difference in the two Mean scores between Upper Middle Class and Lower Middle Class was not statistically significant (*t* -value = 1.768), while the Mean difference between the three SFS groups was found statistically significant at .05 level of probability (*F* - ratio = 3.127). Since the milk yield appeared to be reasonably viable, the Union, NDDB and other dairy developmental organisations should evolve a policy wherein every women milk producer could possess 3-4 wet animals to make the women dairy enterprise more successful.

Information on *milk sold* per day is also presented in Table 8. The Mean score of the total sample for milk sold (Mean = 10.21) was less than the actual milk yield (Mean = 11.27) indicating that the women milk producers were consuming milk in their families because of the dairy activity. Similarly the Mean scores of the SFS groups, namely, the Upper Middle Class (Mean = 11) the Middle Class (Mean = 11.09) and the Lower Middle Class (Mean = 9.02) indicate that the milk producers of all the three SFS groups were selling milk regularly. The Mean differences between three SFS groups were statistically significant at 0.05 level of probability (*F*-ratio = 3.293) indicating that the respondents belonging to all the three groups were selling milk but the Upper Middle Class and the Middle Class producers sold high quantity.

Further enquiry revealed that hundred per cent of women milk producers were selling the milk to the AWMPCS. Hundred per cent of them had expressed that they were able to sell all the milk to the society and there was no occasion that they could not sell the milk. But they had expressed difficulty in taking milk to the cooperative society which was far away from their homes (24.00 per cent). The payments were made fortnightly. A higher percentage (80.67 per cent) of women milk producers felt that the price of milk was non-remunerative. Even they were not satisfied with the method of payment (92 per cent). A higher percentage of them (76.76 per cent) complained delay in payment, while 60 per cent reported corruption in measuring the milk as well as in estimating the fat content in the milk. A higher percentage of them (88 per cent) had also expressed non-availability or poor quality of centrifuge and lactometer in the society. They suggested daily payment for the milk (45.33 per cent), or exact weekly or fortnightly payment (82.00 per cent) without fail, constant monitoring of supervisors on the functioning of secretary (74.00 per cent), trained secretary (61.33 per cent), quality equipment (centrifuge, lactometer, beurometer) to be made available with every society (61.00 per cent) and 26.66 per cent of women milk producers wanted female secretary. The Union and the Policy making body should take care of these valuable suggestions for better performance of dairy enterprise.

Table 8 presents the information on *Dairy Income* (Gross) per month. The Mean income of the total sample (Mean 947.00) indicates that the dairy enterprise is economically viable. The pattern of dairy income of the SES groups was in decreasing order from the Upper Middle Class (Mean - 1120.59) to the Middle Class (Mean - 1004.00) and to the Lower Middle Class (Mean - 836.83) indicating that the

Upper Middle Class respondents were able to generate high income than the Lower Middle Class. Perhaps, it might be due to the reason that the Upper Middle Class could invest more money for the expansion of dairy unit and also efficient herd management by giving quality feed and fodder and medicines which ultimately would result in high milk yield. The difference in Mean score between the Upper Middle Class and the Lower Middle Class was statistically significant ( $t$  value 2.362) indicating that the higher the socio-economic status the greater was the dairy income.

The information on dairy expenditure (recurring) per month is presented in Table 8. On an average the total women milk producers was incurring an expenditure of Rs. 213.83 per month on dairy. Among the three SES groups the Middle Class women milk producers were incurring more expenditure (Mean = 236.50), followed by the Lower Middle Class (Mean = 197.14) and the Upper Middle Class (Mean = 182.35) indicating that the expenditure incurred by the Upper Middle Class was less than the other two SES groups. Perhaps, it may be due to the fact that the Upper Middle Class was getting dry grass, green grass and also a part of feed free of cost from their own lands, and feed when they made the paddy into rice for their own consumption. The reason for incurring low expenditure by the Lower Middle Class when compared to the Middle Class producers might be that the respondents of the Lower Class were getting subsidised inputs from the Union. The expenditure appeared to be burdensome on the women milk producers. If the herd size was increased they might be able to bear this expenditure without much concern to the expenditure.

*Net Dairy Income* was also calculated after deducting the dairy expenditure (per month) from gross dairy income (per month). The Mean scores of the SES groups were in decreasing order from the Upper Middle Class (Mean = 938.24) to the Middle Class (Mean = 767.50) and the Lower Middle Class (Mean = 639.68) indicating the women milk producers belonging to the Upper Middle Class had higher net dairy income than the Lower Middle Class. Their Mean income (Mean = 938.24) was higher than the Mean Income of the total sample (Mean = 733.17). The Mean differences between the Upper Middle Class and the Lower Middle Class was statistically significant at .05 level of probability (t-value = 2.406).

To calculate the *per cent increase* in their income levels, the women milk producers family income before starting the dairy is also presented in Table 9. The pattern of Mean income (family) of different SES groups before starting the dairy enterprise was in decreasing order with glaring difference from the Upper Middle Class (Mean = 1952.94) to the Middle Class (Mean = 1425.71), to the Lower Middle Class (Mean = 828.57) and the Mean differences between the Upper Middle Class and the Lower Middle Class was statistically significant at .01 level of probability (t-value = 7.482). Similarly, the Mean differences between the three SES groups were statistically significant at .01 level of probability (F-ratio = 36.738). These results indicate that the women milk producers belonging to the Lower Middle Class were very poor before starting the dairy enterprise when compared with the other two groups. Their average income (828.57) was much lower than the average income of the total sample (Mean = 1234.667).

Information was elicited on the sources of income before starting the dairy enterprise. The women milk producers families were engaged in occupations such as cultivation, petty-business, agricultural labour, dhobi (washermen) pot-making, poultry, cattle, cow-dung cakes, Class IV service either in government or in private agencies and also dairy activity in few families. After taking up dairy enterprise in all families they had continued the same occupations. The increase in income in respect of the total sample was 59.38 per cent. The pattern of increase in the incomes of different SES groups was in increasing order from the Upper Middle Class (48.04 per cent), the Middle Class (53.83 per cent) and the Lower Middle Class (77.20 per cent). These results are quite significant from the point of AWMPCS and its objectives i.e., maximum benefit to the weaker sections. An inference could be drawn from these results that the poorest of the poor were taking due advantage of the AWMPCS along with other SES groups which was a desirable trend. Significantly, the intended target group was getting the highest benefit by raising their income level.

Thus the introduction of dairy programme helped raise the income of the women milk producers. The income generated on an average was Rs. 733.17 per month due to the implementation of dairy programme. The average income rose by 59.38 per cent. It is obvious that the dairy enterprise as a result of establishment of AWMPCS had generated in general considerably good income to the benefit of the families of women milk producers. This is a significant achievement of the All Women milk producers Cooperative Societies. These findings are in conformity with the findings of Kokila (1975), Charata Ram, et al., (1980), Sundar (1981), Ahmed (1981), Padmaiah (1982), Ilari Kumar (1985), Ilirevenkangowda (1988), Singh and Singh

(1988), Bhanja and Venkatadri, Anees (1989), Batister and Umesh Chandra (1990) and Usha Rani (1990).

Information was elicited on the problems encountered by the women milk producers in carrying out the dairy enterprise. A higher percentage of women milk producers had expressed that the herd size was too small (80 per cent), delay in giving financial help (86.67 per cent), non-availability of feed in time (84 per cent), problems in sanction of loan and corruption while purchasing the milch animals (74.67 per cent), no follow up action by the veterinary officials (64 per cent), sometimes non-availability of doctors in time (54 per cent), purchasing low quality of milch animals (44 per cent), lack of timely guidance from veterinary doctors (21.33 per cent) lack of training to the Directors and Secretary (61.33 per cent), mortality rate of calves (28 per cent), inadequate financial assistance to buy milch animals (65.33 per cent), non-cooperation and harsh behaviour of secretaries and veterinary officials (19.33 per cent), hinderance due to ill health (27.33 per cent), negative attitude of husbands toward selling milk to the AWMPCS due to low price (45.33 per cent), and dairy income was being taken away by the husbands (61.33 per cent). These results revealed that the extension supervisors should maintain the rapport with the male members of the family also so as to cooperate and support the women milk producers to carry out their dairy enterprise successfully.

The suggestions made by the women milk producers to improve the dairy performance were interest free loan (80.66 per cent), increase in subsidy amount (72.67 per cent), increase in loan amount (65.33 per cent), trained and technical personnel (34.67 per cent), increase in herd size (41 per cent), follow up action by the veterinary

officials (42 per cent), adequate training (42 per cent), corruption should be curbed while purchasing animals (39.33 per cent), timely supply of fodder, feed, concentrates and seedlings (28.67 per cent), and incentives for large scale milk producers (21.33 per cent).

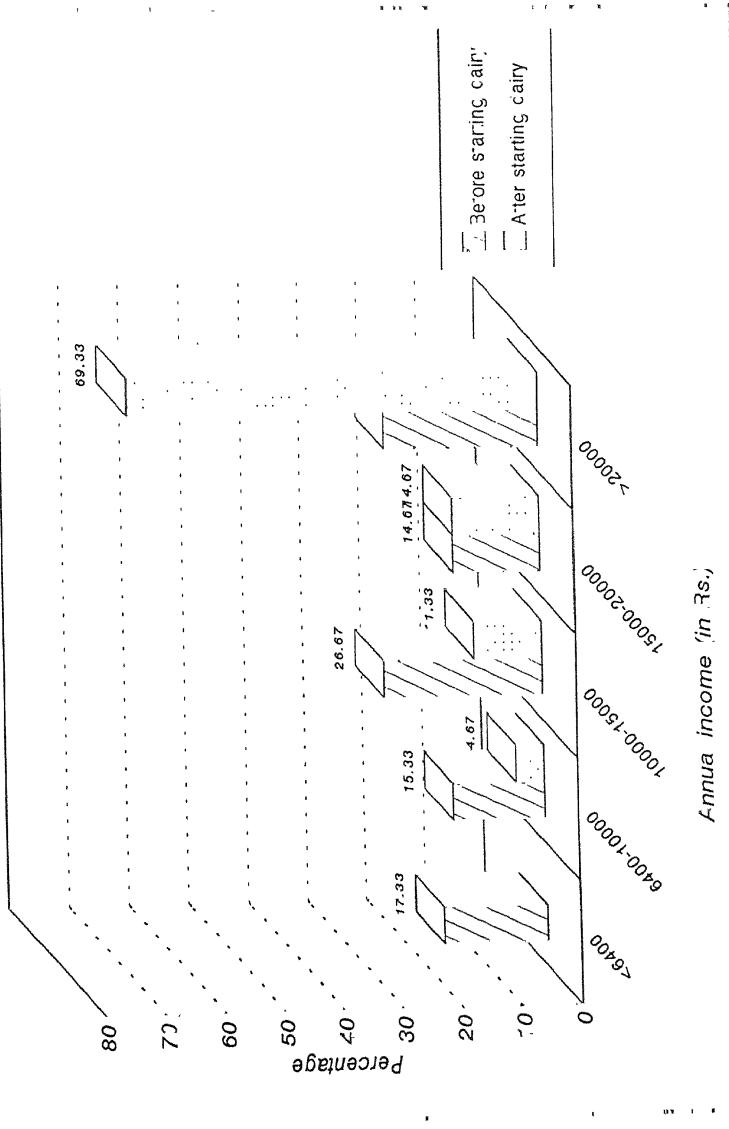
### ***Background Variables and Dairy Income***

The association between dairy income and background variables such as age, education, social participation, land-holding, caste, occupation, farm power, type of family and size of family was found. There is no statistically significant association between dairy income and age, education, social participation, land holding, caste, occupation, and type of family as revealed by  $\chi^2$  values whereas the association between dairy income and farm power ( $\chi^2 = 24.35678$ , df = 4,  $P < .01$ ) is statistically significant at .01 level of probability, while the association between dairy income and size of family ( $\chi^2 = 7.26339$ , df = 2,  $P < .05$ ) is significant at .05 level of probability that the size of family and farm power are exerting influence over dairy income. Perhaps when the number of members in the family are more, they could devote more time on their dairy activity resulting in better management and performance so as to derive more dairy income. Similarly, when the herd size is more, it yields more milk leading to higher income to the women milk producers (Appendix F : Table 11).

***(iii) Impact on Family.*** In the present study it is intended to estimate the impact of the dairy enterprise on the families of the women milk producers in terms of income generated (already discussed and presented in Table 9) number of families crossed below the poverty line, milk consumption and change in food habits, health and children's education, change in family assets and perceived satisfaction of Women milk

producers towards dairy enterprise. Further, the status of Women milk producers in terms of power in decision - making, restrictions on women's activities, self-perceived status within the home and change in the overall status of women after the implementation of dairy enterprise was also estimated. The results were presented in terms of frequencies and percentages, Mean and SDs.

***Crossing the Poverty Line.*** The Poverty Line set up by the Government of India in the Seventh Five Year Plan that a family having annual income of Rs. 6400 or less is considered to be a family below the Poverty Line. In the present study the results revealed that 17.33 per cent of the families of women milk producers before starting the dairy enterprise were living below the Poverty Line as against none after starting the dairy enterprise. While 42 per cent of them had the annual income of Rs. 6400 to 15,000 before starting the dairy enterprise followed by 14.67 per cent of the families who had the annual income ranging from Rs. 15,000 - 20,000 and 26 per cent greater than Rs. 20,000/- after starting the dairy enterprise. Significantly, a higher percentage of the families of women milk producers (69.33 per cent) had the annual income of above Rs. 20,000/- followed by 14.67 per cent Rs. 15,000 to 20,000 and 16 per cent Rs. 6,400 to 15,000/- (Appendix F : Table 12). The results were depicted in Figure 14. It is quite obvious that there has been a significant increase in the number of families whose annual income rose above Rs.20,000/- and also none of the families were living below the Poverty Line after starting the dairy enterprise indicating the positive impact of the dairy on the income levels of the Women milk producers. It is a great achievement of the AWMPCS and in particular the Women milk producers who made the dairy enterprise successful with their sincere efforts.



These results are in conformity with the results of Khatar Singh (1984), Sharma (1985), Cauvery Bank (1985) which presented a positive picture of the dairy farming, while they are contrary to the results of NABARD (1984), NIRD (1986) which concluded that dairy scheme did not possess the potential to lift the people above the Poverty Line.

***Milk Consumption.*** Milk is a nutritious and balanced food item in liquid form. The importance of milk has been recognised as an indispensable food and essential part of one's dairy all over the world. Milk is the nature's most perfect food containing all the essential ingredients of rich diet. The milk protein not only has excellent nutritional value but also the ability to raise the biological value of vegetable proteins. Further, the milk proteins and enzymes have several therapeutic qualities. Milk occupies special position among foods as an animal food that has a vegetarian connotation. Though milk has high nutritive value it is often seen that it is not within the reach of an average Indian.

The human population in the country was nearly 844 Million in 1991 while milk production was about 55 Million tonnes, giving a per capita per day availability of 174 g. as compared to minimum Multinational requirements of 250 g recommended by ICMR. This clearly shows a wide gap between availability and requirement. In comparison world human population was 5,294 million and a total milk production of 531 Million tonnes yielded a per capita per day availability of 275 gms. Further, a comparison of milk availability in various countries showed that in terms of per capita

availability, India ranks 57th in the world. Availability of milk in a given region does provide to some extent an index whether the people in that region are in a position to meet the minimum nutritional requirements or not (Biradar : 1995).

In the present study the results of milk consumption and milk products are presented in Table 9. Cluster I consisted of items on consumption of milk per day in the families of women milk producers after starting the dairy enterprise, how often they were preparing milk products in their families, changes in the food habits of their families after starting milk business and the score was 0-5, and the higher the Mean score the greater was the consumption of milk and milk products in their families. The data revealed that the Mean score of the total sample for consumption of milk and milk products was 2.53 as against the maximum score of 5, indicating that the respondents had medium consumption of milk and milk products. The Mean scores of SES groups was in the decreasing order from the Upper Middle Class (Mean 2.94), to the Middle Class (Mean 2.63) and to the Lower Middle Class (Mean 2.32) indicating that the consumption of the women milk producers belonging to the Upper Middle Class was higher than the Lower Middle Class respondents. The differences in two Means between the Upper Middle Class and the Lower Middle Class ( $t$  value 2.980) and also the Mean differences between the three SES groups were statistically significant ( $F$ -ratio 7.473) at .01 level of probability. These results indicate that the consumption of milk and milk products is dependent of one's socio-economic status.

Table 9

Women Dairy Enterprise and its Impact on Family: Clusters to TV: Mean and SDs for SES Groups and the Total Sample

SES Groups	N	Clusters					
		TV	TV	TV	TV	TV	TV
Upper Viččie Class	77	TV SD	2.94 0.80	3.35 0.90	3.76 0.64	3.71 0.46	3.76 1.39
Viččie Class	70	TV SD	2.63 0.64	3.26 0.92	3.73 0.72	3.76 0.43	3.37 1.32
Lower Viččie Class	63	TV SD	2.32 0.61	2.71 0.93	3.84 0.62	3.84 0.37	3.71 1.50
Total	200	TV SD	2.53 0.68	3.04 0.97	3.78 0.67	3.79 0.41	3.74 1.46
Z-ratio	7.473**		6.683**	0.465 NS	1.066 NS	5.409***	
p-value	2.985**		2.568*	0.238 NS	1.131 NS	2.713***	

Further, the per capita milk consumption in the families of Women milk producers was also calculated. The results revealed that the per capita milk consumption in the families belonging to the Upper Middle Class (Mean = 1.53), to the Middle Class, (Mean = 1.39) and the Lower Middle Class (Mean = 1.30) families was in the decreasing order. Similarly, the per capita consumption of milk was also in the decreasing order from the Upper Middle Class (376 gms), to the Middle Class (335 gms), and to the Lower Middle Class (298 gms) indicating that the per capita consumption in the Upper Middle Class family was high than the Lower Middle Class (Appendix F : Table 13). The results were depicted in Figure 15. On the whole, the Mean per capita consumption of the total sample (298 gms.) appears to be more than the recommendations of ICMR 210 g. of per capita requirement. Perhaps it might be adding to the nutritional status of the milk producers families and also commendable achievement on the part of the AWMPCS and milk producers.

There were few open-end questions enquiring about 'to whom the priority was given while serving milk, curds etc', 'how they utilised the milk in the previous day' and 'the changes took place in the food habits of their families' after starting the dairy enterprise for which percentages were calculated. The results revealed that in the families of women milk producers, a higher percentage of them were giving priority while serving milk, curds etc. to their husbands (56.67 per cent), followed by enough to every one (12.33 per cent), sons (11.33 per cent), elders (10.67 per cent), and a less percentage of them to school going children (2.67 per cent). This pattern of serving indicates the need for nutrition education to mothers in particular regarding child's

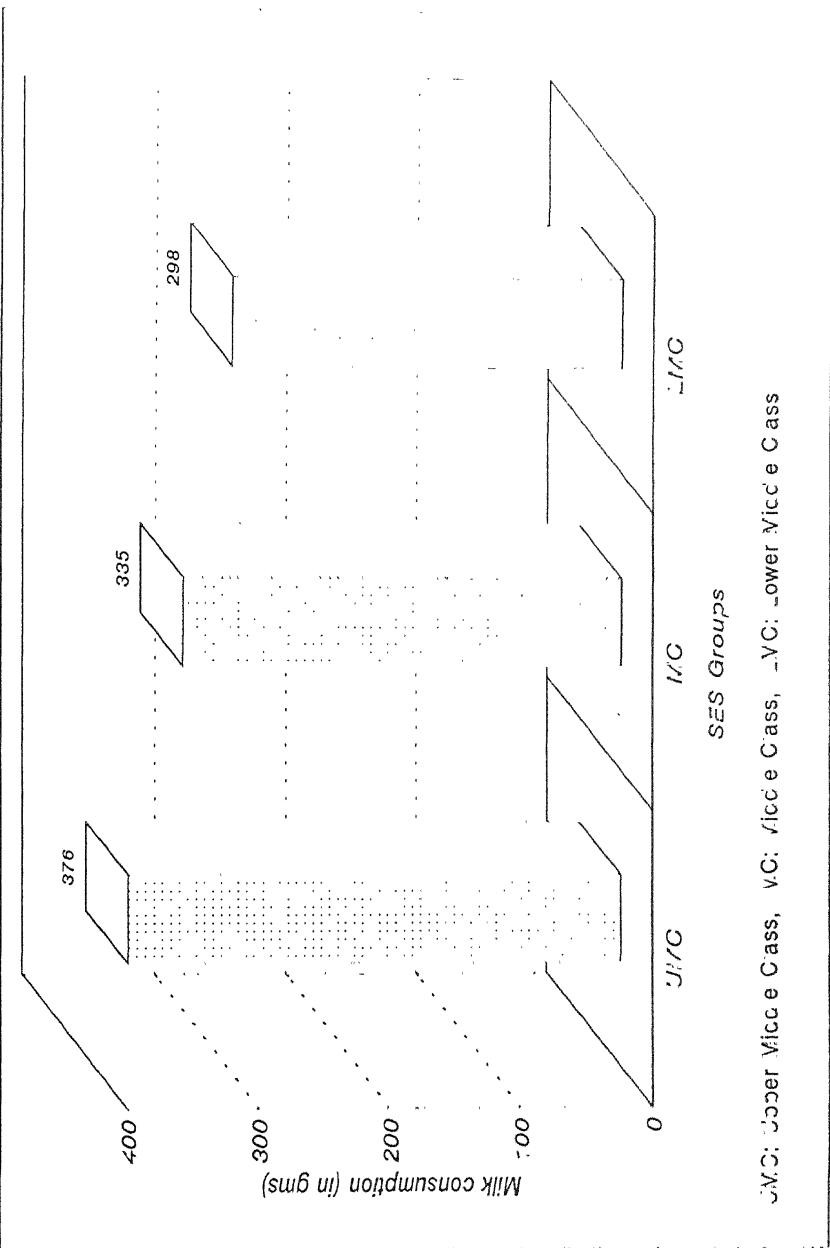


Figure 15. Per Capita Consumption of Milk

nutrition. In none of the families of women milk producers they had given priority to the daughters while serving either milk or curd.

Information was also elicited on the changes occurred in the food habits of their families after starting dairy enterprise. A higher percentage of them (98.67 per cent) had reported changes in the food habits of their families after starting dairy enterprise. Majority of them had reported that they were consuming more milk and milk products (90.67 per cent) in their families, followed by 84 per cent who were able to buy eggs, meat and vegetables, while 54 per cent could afford to buy fruits and dhals and 20 per cent were able to give money to children to buy eatables. These results are in conformity with the results of Anderson (1987).

Table 10 shows that milk consumption had positive and significant relationship with all the four variables. All the variables were found to be significant at .01 level of probability which indicated that the variable milk yield (.8944), dairy income (.8255), herd size of wet animals (.7666) had high correlations and exerted influence on the response variable, milk consumption. Family size had no relationship with the milk consumption in the families of the women milk producers indicating the progressive trend of giving importance to every one in the family while serving though not equal. These correlations indicate that higher the herd size, the greater was the milk yield and dairy income and resultant impact on the milk consumption in the families of women milk producers.

Table 10

Correlation Co-efficients between Milk Consumption and Other Variables (N= 150)

Variables	Zero Order Correlation 'r' Value
Milk Yield	0.8944**
Dairy Income	0.8255**
Herd Size (wet animals)	0.7666**
Family Size	0.1192 NS

\*\* P < .01

The results presented in Cluster II of Table 9 consisted of four items eliciting information on whether 'there was any influence of milk business on their children's education', 'the type of influence of milk business on their children's education', 'whether the education was interrupted due to dairy work', 'better education due to better income', 'whether they had no free time to look after children's education', 'whether the dairy income was helpful to better the health condition in their families', 'whether they were able to consult the doctors', whether they were able to buy the medicines required', and 'whether they were able to take better food'. The score for these items was (0-6) and the higher the Mean score the greater was the help they were getting for children's education and better health of the family from the dairy enterprise.

The Mean score of the total sample (Mean = 3.04) revealed that the milk business to some extent had positive influence on children's education due to

better income and also contributing towards the health status of the family. The Mean scores of the SES groups was in the decreasing order from the Upper Middle Class (Mean = 3.35), to the Middle Class (Mean = 3.26), and to the Lower Middle Class (Mean = 2.71) indicating that the families belonging to the Upper Middle Class had better positive impact of dairy enterprise on health and education of their children than the Lower Middle Class. The difference in two Means between the Upper Middle Class and the Lower Middle Class was statistically significant at .05 level of probability ( $t$  value = 2.568) while the Mean differences between all the three SES groups were statistically significant at .01 level of probability (F-ratio 6.683) indicating that the impact of dairy enterprise on health and children's education was dependent on SES.

Results are also presented in percentages. A higher percentage of Women milk producers reported that the milk business had positive impact on children's education (55.33 per cent). Among them 46 per cent reported that they were able to give better education due to dairy income, 6.67 per cent of the women milk producers interruption of education due to dairy work and 2.67 per cent no free time to take care of children's education and the rest of them could not give any specific influence on children's education. Further, information was elicited on 'how the dairy income contributed towards health status of their families'. Majority of the Women milk producers had replied better food (80 per cent), able to consult doctors (40 per cent) and able to purchase the required medicines (40 per cent). These results are in conformity with the results of Anderson (1987).

Cluster III consisted of two items eliciting information on the change in the assets of their family and also the type of change after starting the dairy enterprise and also the type of assets purchased like T.V , Radio, Tape Recorder, Gold, or Land and the score was 0-6. The higher the score the greater was the change in their assets possessed. The Mean score of the total sample (Mean = 3.78) indicates that there has been a good change in the possession of the assets in the families of milk producers after starting the dairy. The Mean scores for SES groups were in the increasing order from the Upper Middle Class (Mean=3.76) to the Lower Middle Class (Mean = 3.84) indicating that the Lower Middle Class families had benefited more of the dairy income and were able to purchase more assets than the other two SES groups. Perhaps, earlier, the weaker sections belonging to the Lower Middle Class had less capacity to possess the minimum assets in their families and as a result of dairy income they were able to possess the required assets. The Mean differences between the SES groups and also between the Upper Middle Class and the Lower Middle Class were not statistically significant indicating that all the three SES groups had gained the capacity to purchase the required assets because of dairy income.

Further information was elicited on an open-end question regarding the type of assets purchased. A higher percentage of women milk producers reported land (20.67 per cent), gold (20 per cent), T.V. (18.67 per cent), tape recorder (9.33 per cent), Radio (6.67 per cent) and cleared the old debts (13.33 per cent) indicating that the dairy income brought commendable change in the assets possessed in the families of women milk producers and in particular weaker sections. In fact, they were able to save some money because of dairy income which was already discussed in Section A of this chapter.

Cluster IV deals with the perceived satisfaction of women milk producers. Information was elicited on how far the women milk producers were satisfied with the dairy activity and it was found that the turn out was as much as to meet the requirements of their facility. The score was 0-5. The higher the score the greater was the satisfaction towards dairy enterprise. The Mean score of the total sample of respondents (Mean = 3.79) indicates that the milk producers expressed greater satisfaction towards dairy enterprise and it was in the increasing order from the Upper Middle Class (Mean = 3.71), to the Middle Class (Mean = 3.76) and to the Lower Middle Class (Mean = 3.84) indicating that the respondents belonging to the Lower Middle had perceived greater satisfaction than the other two SES groups. But the Mean differences were not statistically significant.

On the whole, the impact of dairy enterprise on families of total sample of women milk producers was moderate (Mean = 13.14) and the impact was in the decreasing order from the Upper Middle Class (Mean = 13.76) to the Middle Class (Mean = 13.37) and to the Lower Middle Class (Mean = 12.71) indicating that the impact of dairy enterprise was higher in the families of Upper Middle Class than in the families of the Lower Middle Class. The Mean differences between these two SES groups were statistically significant at .01 level of probability ( $t$  - value 2.713). Similarly, the Mean differences between the three SES groups were also statistically significant ( $F$ -ratio = 5.409) at .01 level of probability indicating that the performance of weaker sections in dairy farming needs to be strengthened further.

*(iv) Impact on Status of Women.* The concept of perceived status is used to indicate the ordering of individuals in terms of attributes such as the involvement of wife in the decision making process, the type of restrictions imposed on her activities, self-perceived status within the home etc. A family in which the husband is the sole decision maker even with respect to domestic matters, in which the wife perceived a low position in the hierarchy of prestige vis-a-vis her husband and other members of family, and in which her activities are restricted, then we would predict a very low impact of dairy enterprise on the status of women. This is so because under a subservient position, the wife hardly gets an opportunity or access to resource-support system of dairy enterprise, but for the establishment of AWMPCS. Because of low status and restrictions on her activities she has a very limited scope to participate in roles outside home and thus passive role in AWMPCS and in dairy enterprise. Conversely, a wife secures more power and prestige in the family and thereby gaining status because of her active involvement in the dairy enterprise. Our late Prime Minister Pandit Jawaharlal Nehru stated that "the greatest revolution in a country is the one that affects the status and living conditions of its women". Therefore, any programme for the village women has to take into account her various roles in life which has to be performed and in particular the most significant role in relation to her family and home as a wife, mother and mother-in-law. The village woman is an individual in her own right. She has to fulfill certain needs and aspirations of her own in order to live an effective and satisfying life.

In the present study an attempt has been made to measure the women's decision making power, restrictions on women's activities and their self-perceived status within the home and these three aspects were presented in three clusters (Cluster I, II and III

respectively) on status of women. Decision-making is an important concept of daily life, it directs the things to happen instead just let them to happen. Achievement of family goals depends upon the effective decision making by family members and task performing which involves coordination, supervision, and checking of actions. The results in respect of decision making are presented in terms of Mean and SDs in Table 11.

As it has been mentioned in the methodology, the schedule consisting of 16 items were used to assess the women's decision-making power and also the changes that took place in taking important decisions concerning the family after the establishment of dairy enterprise. The items consisted of 'whether their husbands consult them while taking decisions concerning their family', who will decide on 'what foods to cook', 'type of clothes to be purchased for the wife', 'what household articles to be purchased', 'disciplining children', 'whether the wife should work outside the home', 'purchase or sale of property', 'education of children', 'recreation', 'religious activities' and 'which relatives to visit' and also whether there has been any change in taking important decisions concerning the family such as milk business decisions, family budget, marriage allowances, children's education etc. after establishing dairy enterprise. The score for these items was 0-58 and the higher the score the greater was the wife's power in the family with regard to household decision-making, and matters relating to dairy enterprise.

Table 11

Women Dairy Enterprise and its Impact on the Status of Women :  
Clusters I to III: Mean and SDs for SES Groups and the Total Sample

SES Groups	N	Clusters				Total (I+II+III) (0-84)	
		I		II			
		Power in decision making (0-58)	Restrictions on Women's Activities (0-11)	Self-Perceived status within the home (0-15)			
Upper Middle Class	17	M SD	44.94 7.34	1.88 1.49	9.82 1.76	56.65 6.43	
Middle Class	70	M SD	46.37 5.58	2.36 2.32	9.24 1.82	57.97 6.45	
Lower Middle Class	63	M SD	48.27 4.91	3.32 3.50	8.38 2.60	59.97 6.44	
Total	150	M SD	47.01 5.67	2.71 2.86	8.95 2.24	58.66 6.55	
		F-ratio	3.207*	2.704 <sup>NS</sup>	4.075*	2.477**	
		't'-value	1.767 <sup>NS</sup>	2.519*	2.683**	1.890 <sup>NS</sup>	

The results relating to power in decision-making are presented in Table 11 in cluster I. The Mean score of the total sample of women milk producers (Mean 47.01) indicates that the women respondents was enjoying greater power in decision-making in their families. The Mean scores of the SES groups were in the increasing order from the Upper Middle Class (Mean – 44.94) to the Middle Class (Mean 46.37) and to the Lower Middle Class (Mean 48.27) indicating that the women milk producers belonging to the Lower Middle Class were enjoying more

power in decision-making process than the Middle Class and Upper Middle Class Women. Perhaps the male dominance might be high in the Upper Middle Class and the Middle Class families. The Mean differences between the three SES groups were statistically significant at .05 level of probability (F-ratio 3.207) confirming that the women milk producers belonging to the Lower Middle Class were enjoying more power in decision-making in their families, while male dominance was more in the Upper Middle Class families indicating that the decision-making power was very much associated with the socio-economic status of the family.

Information was also presented in percentages to have a better picture of a change in decision making after establishing dairy enterprise. The results revealed that a higher percentage of women respondents (97.33 per cent) expressed that there was a change in taking important decisions concerning their families after establishing dairy enterprise on the aspects relating to milk business (9.33 per cent), family budget (41.33 per cent), children's education i.e. admission into better schools (29.45 per cent) and increase in marriage allowances (19.18 per cent).

Cluster II deals with the restrictions on women's activities such as 'going out to work', 'leaving house alone', 'talking to males', 'talking back to husband', 'talking to husband in the presence of others', 'having male friends', 'having female friends whom husband dislikes', 'participation in public life', 'visiting relatives frequently', 'going to fairs with friends' and use of family planning methods'. The score for these eleven items was 0-11, the higher the score the greater was the restrictions not imposed on women's activities.

The Mean score of the total sample (Mean 2.71) revealed that the restrictions imposed on women were very high in the milk producer's families. The restrictions imposed were more in the families of Upper Middle Class (Mean – 1.88), followed by Middle Class (Mean – 2.36), and Lower Middle Class (Mean = 3.32). The Mean differences between the Upper Middle Class and Lower Middle Class were statistically significant at .05 level of probability (t-value 2.519) confirming that the women belonging to the Lower Middle Class had less restrictions on their activities than the women belonging to the Upper Middle Class. Thus the male dominance was more in the Upper Middle Class families.

Percentages were also calculated. It was revealed that a higher percentage of the women milk producers were allowed to go out to work (54.67 per cent) and also for participation in public life (79.33 per cent). They were not allowed to leave the house alone (88 per cent), talking to males (88 per cent), talking back to husband (88.67 per cent), talking to husband in the presence of others (89.33 per cent), having male friends (88 per cent), having female friends whom husband dislikes (88.67 per cent), visiting relatives frequently (85.35 per cent), going to fairs with friends (62.67 per cent) and using family planning methods (84.67 per cent). These results indicate the clear picture of male domination in the rural society.

Cluster III relates to the perceived status within the home. There were eleven items viz., 'whether she was consulted by her husband in all important decisions', 'whether approached for consultation and advice by her relations', 'whether she was free enough to talk about birth control measures with her husband', 'whether she was owner of any property or land', 'whether she had a bank account in her name',

'whether maintaining the household account', 'whether she was keeping in her possession the cash money for day-to-day expenditure', 'whether considered more intelligent by her husband', and whether she satisfied with her position in the family'. The score of these items was 0-15. The higher the score the greater was the status perceived within the home.

The Mean score of the total sample of women milk producers (Mean = 8.95) indicates that they had perceived better status within their homes. The Mean scores of SES groups were in the decreasing order from the Upper Middle Class (Mean = 9.82) to the Middle Class (Mean = 9.24) and to the Lower Middle Class (Mean = 8.38) indicating that the Women Milk Producers belonging to the Upper Middle Class had perceived better status within their homes in spite of greater restrictions imposed on their activities when compared to the respondents belonging to the Lower Middle Class. The Mean differences between the Upper Middle Class and the Lower Middle Class were statistically significant at .01 level of probability ('t' value 2.683) and also the mean differences between the three SES groups were also statistically significant at .01 level of probability (F-ratio 4.075) indicating that in spite of lower power in decision making, higher restrictions on women's activities, the Upper Middle Class Women had perceived greater status within the home. Perhaps they were used to the subservient treatment for generations in the male dominated societies.

Percentages were also calculated. A higher percentage of Women Milk Producers (83.33 per cent) had expressed satisfaction towards their position in the family after the establishment of dairy enterprise. The reasons stated by them were monetary freedom (38.67 per cent), joint consultation in all the matters (34 per cent),

and being respected (10.67 per cent). A less percentage of the women milk producers were not satisfied with their position in the family (16.67 per cent) The reasons stated by them were no recognition and no monetary freedom (8 per cent), no value for her opinions (5.33 per cent) and misbehaviour of children (3.30 per cent).

On the whole, the Mean score of the total sample of the respondents for the total of all the three clusters on status of women (Mean = 58.66) indicates that they had perceived better status of women. The impact on status of women was in the increasing order from the Upper Middle Class (Mean = 56.65) to the Middle Class (Mean = 57.97) and to the Lower Middle Class (Mean = 59.97) indicating that the women belonging to the Lower Middle Class were enjoying better status than the other two SES groups. Perhaps it may be due to the fact that the dairy income reflected positively on their economic status and resultantly on the social status. This is what is needed by establishing AWMPCS and also by encouraging and promoting dairy enterprise.

Further, the information was also elicited about the things that were currently worrying about by the women milk producers. The results revealed that a higher percentage of women milk producers reported that they had very few opportunities to improve dairy income (74 per cent), followed by too much debt to pay back (66 per cent), too much work to do (28 per cent), too many people to be taken care of (26 per cent), too much unfair treatment in the family (22 per cent), too much illness in the family (18 per cent), too many troubles in the family (30.67 per cent) and children creating too many problems (14 per cent). All this indicates the stress conditions in the families of women milk producers.

#### *E. Exposure to Modern Influences*

In the present study exposure to modern influences has been studied in relation to mass media, urban contact and contact with extension functionaries. In the words of Inkeles, "the mass media bring men information about many aspects of modern living, open them upto new ideas, show them new ways of doing things, demonstrate accomplishments which can contribute to a sense of efficiency, reveal and justify hightened aspirations for education and mobility, glorify science and sing the praise of technology - all of which should induce greater modernity in any individual open to influence" (Inkeles : 1974). Planners and Policy makers are greatly committed to the goal of increasing communication with the people because it is felt that economic, social and political progress is dependent on it. Rao (1966) in his study of two Indian villages suggests that with the increasing use of media small communities tend to develop faster.

An individual's contact with outside world may be accomplished in two ways. The respondent may take the initiative to move out of his social system to meet other persons. This is physical mobility. Learner has pointed out that the psychic mobility begins with the expansion of physical travel. Wider social contact and participation help people come out of their traditional way of life and reach their goals. In the present study, urban contact refers to the person who visits to towns, districts, cities and in short who travelled widely, while extension contact refers to his regular contact with the extension officials of Dairy and Animal Husbandry Departments such as paid Secretary, Milk-Supervisor, Veterinary Officer, Manager of Chilling Centre,

Assistant Director of Extension to get information and technical assistance regarding dairy. Exposure to mass media was studied in relation to Radio, Television, News Papers, Farm Magazines, Tours, Field Trips, Exhibitions and Melas, Film Shows and personal visits to other dairy programmes. The information on this aspect of exposure to modern influences was elicited from 150 women milk producers as already stated in Methodology. The results are presented in terms of frequencies and percentages

Table 12 gives information on the exposure of women milk producers to different media. A higher percentage of women milk producers (92 per cent) were listening to radio and the trend was the same with the Upper Middle Class (94.12 per cent), Middle Class (92.86 per cent) and the Lower Middle Class (90.48 per cent). The next medium was T.V. which was viewed by 72 per cent of women milk producers. The SES group wise analysis revealed that a higher percentage of Middle Class respondents (85.71 per cent), followed by 82.35 per cent of Upper Middle Class and 53.97 per cent of Lower Middle Class respondents were viewing T.V. This trend indicates that the Lower Middle Class producers had less accessibility to view T.V. Perhaps they may be owning neither the T.V. nor the one in the community with easy access. As regards the films, tours and exhibitions, 60 per cent of the women milk producers were exposed to them. The pattern of response among the SES groups revealed that a high percentage of women milk producers belonging to Middle Class (78.57 per cent) had exposed to films and exhibitions, followed by 58.82 per cent of Upper Middle Class and 39.68 per cent of Lower Middle Class producers (See Fig. 16). The trend appears to be associated with the one's own socio-economic status. A less percentage of women milk producers (40 per cent) were either reading

Table 12  
Media Exposure and Women Milk Producers

Media Exposure	SES Groups			Total
	Upper Middle Class (N=17)	Middle Class (N=70)	Lower Middle Class (N=63)	
One Media	1 (5.88)	7 (10.00)	10 (15.87)	18 (12.00)
Two Media	4 (23.53)	25 (35.71)	17 (26.98)	46 (30.67)
Three Media	6 (35.29)	26 (37.14)	25 (39.68)	57 (38.00)
Four Media	6 (35.29)	12 (17.14)	11 (17.46)	29 (19.33)
$\chi^2 = 4.824$ df = 6      P > .05				
Radio	16 (94.12)	65 (92.86)	57 (90.48)	138 (92.00)
T.V.	14 (82.35)	60 (85.71)	34 (53.97)	108 (72.00)
News Paper/ Farm Magazines	10 (58.82)	30 (42.86)	20 (31.75)	60 (40.00)
Tours/Exhibitions/ Films	10 (58.82)	55 (78.57)	25 (39.68)	90 (60.00)

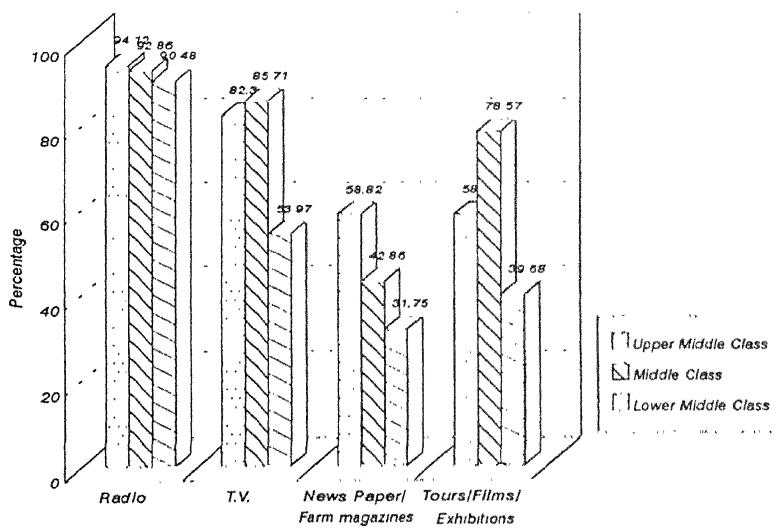
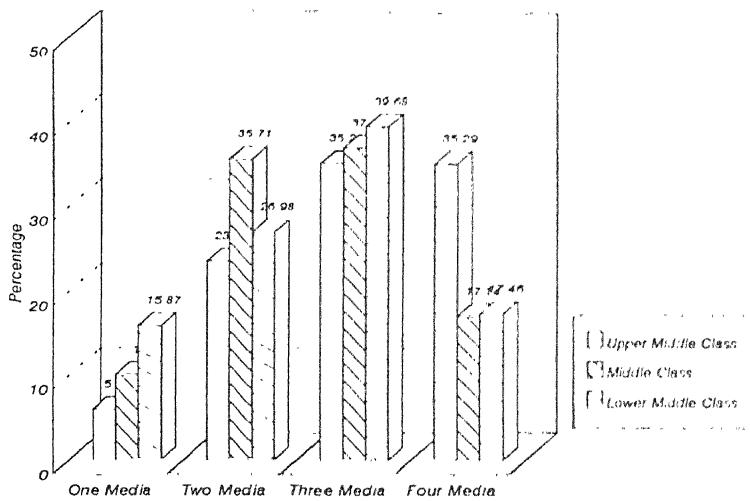


Figure 16. Mass Media Exposure and Women Milk Producers

or listening to the newspaper and farm magazines. The pattern of response among the SES groups indicates that a higher percentage of the women milk producers belonging to the Upper Middle Class (58.82 per cent) had exposed better than the Middle Class (42.86 per cent) and the Lower Middle Class (31.75 per cent). The trend was in the decreasing order from high to low SES, indicating that the women milk producers belonging to the Lower Middle Class were weaker sections and mostly illiterates. As a result their exposure was low than the Upper Middle Class and the Middle Class milk producers. But the association between media exposure and SES groups was not statistically significant ( $\chi^2 = 4.824$ , df = 2,  $P > .05$ ). On the whole, it may be concluded that among the media, radio is playing a vital role in disseminating the knowledge among the poor when compared to the other types of media.

Table 12 also presents information on clubbed media exposure of women milk producers. A higher percentage of women milk producers had exposure to three media (38 per cent), followed by 30.67 per cent to two media, 19.33 per cent to four media and 12 per cent to one media. On the whole, the data revealed that the Lower Middle Class had exposed less to the literature, tours, exhibitions, films and T.V. when compared to the other SHS groups. These results suggest that a community T.V. is given a priority in all the AWMPCS, so as to have a better exposure to the media by the weaker sections. Since media exerts influence on one's knowledge, attitudes, aspirations and achievement, this requirement may be taken care by the Milk Producers Cooperative Union, NDDB or any other Voluntary Organisation.

Results also suggest that the women milk producers should start Mahila Mandals with the provision for Television and newspapers. This exposure may help the producers improve knowledge for better milk production, consumption and the resultant incremental income. This may lead to efficient management of their dairy enterprise. Moreover, improper allocation of time for different household activities was responsible for preventing rural women from attending the social gatherings to listen Radio, to view T.V., and to see Films and expose to other modern influences. In general, a few women normally go out and participate in social activities and even view the community T.V. These results were similar to the findings of Rama Chand, et al , (1979) and Sivanarayana (1990).

Table 13 provides information as to what extent the women milk producers had exposed to media exposure, urban contact and extension contact. Cluster I deals with media. The score range was 0-21, the higher the Mean score the greater was the exposure of women milk producers to different media. The Mean score for the total sample of respondents (Mean = 9.50) indicates that the women milk producers had very low media exposure. The pattern of exposure of SES groups to media was in the decreasing order from the Upper Middle Class (Mean = 12.65) to the Middle Class (Mean = 8.93). The Mean score of the respondents belonging to the Lower Middle Class was 9.29. These results revealed that the exposure of the women milk producers belonging to the Upper Middle Class had better exposure to media than the Lower Middle Class. This indicates steps should be taken to improve the exposure of Lower Middle Class by providing extra inputs

Table 13

Women Milk Producers and their Exposure to Modern Influences.  
Clusters I to III : Mean and SDs for SES Groups and for the Total Sample

SES Groups	N	Clusters			---	Exposure to Modern influences
		I	II	III		
		Media Exposure (0-21)	Urban Contact (0-13)	Extension Contact (0-15)		
Upper Middle Class	17	M SD	12.65 4.51	2.29 1.74	9.76 2.46	24.71 7.12
Middle Class	70	M SD	8.93 3.89	1.81 1.89	9.01 2.73	19.77 6.66
Lower Middle Class	63	M SD	9.29 4.06	1.70 1.92	9.02 1.90	19.98 5.59
Total	150	M SD	9.50 4.19	1.82 1.89	9.10 2.40	20.42 6.47
		F-ratio:	5.839**	0.655 NS	0.730 NS	4.380*
		t-value:	2.783**	0.225 NS	1.164 NS	2.532*

as community T.V., News Paper reader, and in respect of media in particular the services should reach all the weaker sections. The Mean differences between the Upper Middle Class and the Lower Middle Class (t value = 2.783) and the Mean differences between all the three SES Groups (F-ratio = 5.839) were statistically significant at .01 level of probability.

Cluster-II relates to urban contact and the score was 0-13. The higher the Mean score, the greater was the travelling made by the women milk producers to the

urban areas, such as towns, districts and cities. The Mean score for the total sample of respondents (Mean = 1.82) revealed that the women milk producers had negligible urban contact. All the SFS groups had very low urban exposure but the response pattern was in the decreasing order from the Upper Middle Class (Mean = 2.29), to the Middle Class (Mean = 1.81) and to the Lower Middle Class (Mean = 1.70) indicating that the Upper Middle Class respondents had better contact than the Lower Middle Class but the Mean differences were not statistically significant. However, the women milk producers had very poor exposure to the urban places. Perhaps it may be due to the fact that in our traditional pattern of society where male dominance is common it is the man who goes out and travels widely and the women are restricted to the boundaries of their respective villages. As a result their exposure is extremely poor as far as urban contact is concerned

Cluster III relates to extension contact and the score was 0-15. The higher the score, the greater was the contact with extension agency. The Mean score of the total sample respondents (Mean = 9.10) indicates that the women milk producers had considerable contact with the extension agencies and the pattern of response was almost similar in all the three SFS groups, Upper Middle Class (Mean = 9.76), Middle Class (Mean = 9.01) and Lower Middle Class (Mean = 9.02). The Mean differences between the SFS groups was not statistically significant. It could be understood that the sincere efforts made by the Field Supervisors, Director Animal Husbandry, Veterinary Officer, and Assistant Director of Extension in the field could be the factors for this better exposure to extension agencies. For further strengthening the

extension strategy could be evolved by employing women extension supervisors by APDDCFL in particular in the areas of AWMPCS for implementing the women's dairy enterprise successfully and also to reach its target categories of rural women. These results are in agreement with Gopala Krishnaiah (1984), Reddy and Chenna Gowda (1987), Rama Chand, et al., (1990) and Raju (1991).

On the whole, the Mean score of the total sample of women milk producers (Mean 20.42) towards total exposure to the modern influences revealed poor exposure of the respondents in particular of Lower Middle Class (Mean = 19.98) and Middle Class (Mean 19.77), while the Upper Middle Class respondents had better exposure to modern influences (Mean 24.71). The Mean differences between the Upper Middle Class and the Lower Middle Class ( $t$  - value = 2.532) and the Mean differences between the three SES groups ( $F$ -ratio = 4.38) were statistically significant at .05 level of probability. Even the  $\chi^2$  value ( $\chi^2 = 13.93023$ ,  $df = 4$ ,  $P < .01$  level of probability) also revealed that the association between SES and exposure to modern influences was statistically significant (Appendix F : Table 12). The results emphasize the extension strategies to be evolved for better exposure to modern influences and in particular to the benefit of Lower Middle Class women milk producers

### ***Modern Influences and Dairy Income.***

The results presented in Table 14 revealed that a high percentage of women milk producers who had high exposure to modern influences (34.38 per cent) had high dairy income followed by 17.98 per cent moderate income and 20.69 per cent low dairy income indicating that the higher the exposure to modern influences the greater was the performance and dairy income. But the association was not statistically

Table 14

## SES Groups, Dairy Income and Modern Influences

SES and Dairy Income	Modern Influences			Total (N=150)
	Low (N 27)	Moderate (N=90)	High (N=33)	

*SES Groups*

Upper Middle Class	2 (11.76)	6 (35.29)	9 (52.94)	17 (100.00)
Middle Class	16 (22.86)	39 (55.71)	15 (21.43)	70 (100.00)
Lower Class	9 (14.29)	45 (71.43)	9 (14.29)	63 (100.00)

$$\chi^2 = 13.93023 \quad df = 4 \quad P < .01$$

*Diary Income*

Low	6 (20.69)	17 (58.62)	6 (20.69)	29 (19.33)
Moderate	15 (16.85)	58 (65.17)	16 (17.98)	89 (59.33)
High	6 (22.22)	15 (56.25)	11 (34.38)	32 (21.33)

$$\chi^2 = 4.42039 \quad df = 4 \quad P > .05$$

significant ( $\chi^2 = 4.42039$ ,  $df = 4$ ,  $P > .05$ ) as revealed by  $\chi^2$  value, while the association between SES and modern influences was statistically significant ( $\chi^2 = 13.93023$ ,  $df = 4$ ,  $P < .01$ ).

Further it was intended to present the association between media exposure and extension contact. The results presented in Table 15 revealed that a higher percentage of the respondents having high exposure to media had greater extension contact (23.53 per cent) as against 12.12 per cent of respondents with low exposure to media and who had high contact with extension functionaries. The association between media exposure and urban contact was statistically significant ( $\chi^2 = 11.70138$ , df = 4,  $P < .05$ ) at .05 level of probability.

Similarly, the association between media exposure and urban contact was also found. The results revealed that a higher percentage of women milk producers having high exposure to media (58.82 per cent) had high urban contact, followed by 37.35 per cent medium and 9.09 per cent low exposure to media and high urban contact. The association between media exposure and urban contact was statistically significant at .01 level of probability ( $\chi^2 = 17.39747$ , df = 2,  $P < .01$ ).

These results reveal that media exposure exerts influence on urban contact and also contact with the extension functionaries. Thus it is essential to strengthen this variable media so as to have a better exposure of women milk producers to modern influences and enhance their awareness and attitudes towards dairy enterprise for better performance and ultimate success.

Table 15

## Media Exposure with Extension and Urban Contact

Media Exposure				
	Low (N=33)	Medium (N=83)	High (N=34)	Total (N= 150)
<i>Extension Contact</i>				
Low	10 (30.30)	8 (9.64)	2 (5.88)	20 (13.33)
Medium	19 (57.58)	51 (61.45)	24 (70.59)	94 (162.67)
High	4 (12.12)	24 (28.92)	8 (23.53)	36 (24.00)
	$\chi^2 = 11.70138$		df = 4	$P < .05$
<i>Urban Contact</i>				
Medium	30 (90.91)	52 (62.65)	14 (41.18)	96 (64.00)
High	3 (9.09)	31 (37.35)	20 (58.82)	54 (36.00)
	$\chi^2 = 17.39747$		df = 2	$P < .01$

#### *F. Entrepreneurial Attributes*

Christopher attempted to classify three different theoretical constructs under which the traits or personality theory approach was one. Personality theory approach states that the prospective entrepreneurs do manifest certain personality traits which distinguish them from others. Further it has been stated that only certain common psychological traits are dominant in successful entrepreneurs. The characteristics indicate the common denominators observed in a majority of the cases. Every entrepreneur may not have all the characteristics. The more of these characteristics are present in a person the more effective he is likely to be as a dairy entrepreneur.

In the Chapter on Methodology it was stated that the total sample for the study was 150 women milk producers. An attempt was made to measure the self-perceived entrepreneurial personality traits of women respondents with a view to examine whether they had requisite personality attributes for better performance in dairy enterprise. The items measured in this scale were 40, namely, self confidence, competitive spirit, ego-involvement, ego-strength, risk taking ability, decision-making ability, independent, desire for unique production, inner directedness, managerial skill, organisational ability, emotional tolerance, intelligence, achievement motivation, visualization ability, goal direction thinking, morale, coping with ability, physical tolerance, competence in skill, persuability, perseverance, sensitivity to problems, budgeting ability, flexibility, enlightened belief, popularity, manipulator of situation, resourcefulness, inquiriness, integration capacity, reality orientedness, cooperative, communicability, observational ability, reasoning, quality control capacity. The items

were scored for the presence and absence of the entrepreneurial traits. It was analysed through correlation and percentiles. The respondent's scores were divided into three categories, Low, Medium and High. In order to assess the direction and intensity of the personality traits a single score was derived by multiplying the per cent frequency with the popular scale point and summating across the scale points (Low coded with '-5', Medium '0', High '+5'; maximum score ± 500). The higher the score the greater was the entrepreneurial attributes among the sample women milk producers. The women milk producers whose percentiles were in the range of 350 to 500, fell in to the category of 'respondents with dominant traits of entrepreneurship', and those whose percentiles score were less than 150 were the respondents 'with low entrepreneurial traits'. In between these two categories were the women milk producers with moderate traits (score 150 - 350).

The results presented in Table 16 show the prevalence of personality attributes among women milk producers. The analysis revealed that among the entrepreneurial traits measured it was found based on the weighted score that Morale (240), Persuability (230), Perseverance (223), Quality control capacity (217), Physical tolerance (213), Competence in skill (210), Coordinating ability (183), Reasoning ability (167), Goal direction thinking (163), Communicability (163), Coping with ability (160), Cooperative (160) were moderate traits found among the women milk producers and the rest of the 28 entrepreneurial traits were either low or absent among the sample women milk producers (See Figure 17). The results revealed that none of the entrepreneurial traits were dominant among the sample women milk

producers. These results indicate that the awareness programmes on entrepreneurship and attitudinal change are essential in developing the required attributes among the women milk producers for better performance in dairy activity.

Table 16

Entrepreneurial Traits of Women Milk Producers Percentiles to the Total Sample

S.No.	Attributes	High (N = 13)	Medium (N = 117)	Low (N = 20)	Percentiles
1.	Morale	77 (51.33)	68 (45.33)	5 (3.33)	240.00*
2.	Persuability	82 (54.67)	55 (36.66)	13 (8.67)	230.00*
3.	Perseverance	89 (59.33)	29 (26.00)	22 (14.67)	223.30*
4.	Quality control capacity	80 (53.33)	55 (36.67)	15 (10.0)	216.65*
5.	Physical tolerance	85 (56.67)	44 (29.33)	21 (14.00)	213.35*
6.	Competence in skill	78 (52.00)	57 (38.00)	15 (10.00)	210.00*
7.	Coordinating ability	75 (50.00)	55 (36.67)	20 (13.33)	183.35*
8.	Reasoning ability	69 (46.00)	62 (41.33)	19 (12.67)	166.65*
9.	Goal direction thinking	72 (48.00)	55 (36.67)	23 (15.33)	163.35*
10.	Communicability	71 (47.33)	57 (38.00)	22 (14.67)	163.30*

11.	Coping with ability	67 (44.67)	64 (42.67)	19 (12.66)	160.05*
12	Cooperative	70 (46.67)	58 (38.66)	22 (14.67)	160.00*
13	Decision-taking ability	67 (44.67)	60 (40.00)	23 (15.33)	146.70
14.	Self-confidence	69 (46.00)	56 (37.33)	25 (16.67)	146.65
15.	Desire for unique production	66 (44.00)	60 (40.00)	24 (16.00)	140.00
16.	Observational ability	64 (42.67)	64 (42.66)	22 (14.67)	140.00
17.	Ego involvement	65 (43.33)	60 (40.00)	25 (16.67)	133.30
18.	Risk taking ability	67 (44.67)	54 (36.00)	29 (19.33)	126.70
19.	Reality orientedness	63 (42.0)	62 (41.33)	25 (16.67)	126.65
20.	Independence	68 (45.33)	52 (34.67)	30 (20.00)	126.65
21.	Achievement motivation	64 (42.67)	59 (39.33)	27 (18.00)	123.35
22.	Competitive spirit	64 (42.67)	59 (39.33)	27 (18.00)	123.35
23.	Imaginative	60 (40.00)	65 (43.33)	25 (16.67)	116.65
24.	Enlightened belief	60 (41.33)	62 (37.33)	28 (18.67)	106.65
25.	Ego-strength	62 (41.33)	56 (37.33)	32 (21.33)	100.00

26.	Inquiriness	61 (40.67)	57 (38.00)	32 (21.33)	96.70
27.	Organisational ability	63 (41.99)	49 (32.67)	38 (25.33)	83.35
28.	Inner directedness	60 (40.00)	53 (35.33)	37 (24.67)	76.65
29.	Visualisation ability	57 (38.00)	59 (39.33)	34 (22.67)	76.65
30.	Manipulator of situation	56 (37.33)	60 (40)	34 (22.67)	73.30
31.	Managerial skill	58 (38.67)	55 (36.66)	37 (24.67)	70.00
32.	Emotional tolerance	53 (35.33)	55 (36.67)	42 (28.00)	36.65
33.	Amicable nature	74 (49.33)	49 (32.67)	27 (18)	31.33
34.	Flexible	51 (34.00)	57 (38.00)	42 (28.00)	30.00
35.	Integration capacity	67 (44.67)	53 (35.33)	30 (20.00)	24.67
36.	Sensitivity to problems	64 (42.67)	56 (37.33)	30 (20.00)	22.67
37.	Intelligence	49 (32.67)	54 (36.00)	47 (31.33)	6.70
38.	Budgeting ability	48 (32.00)	55 (36.67)	47 (31.33)	3.35
39.	Resourceful	36 (24.00)	72 (48.00)	42 (28.00)	4.00
40.	Popularity	37 (24.67)	47 (31.33)	66 (44.00)	-96.65

\* Moderate traits

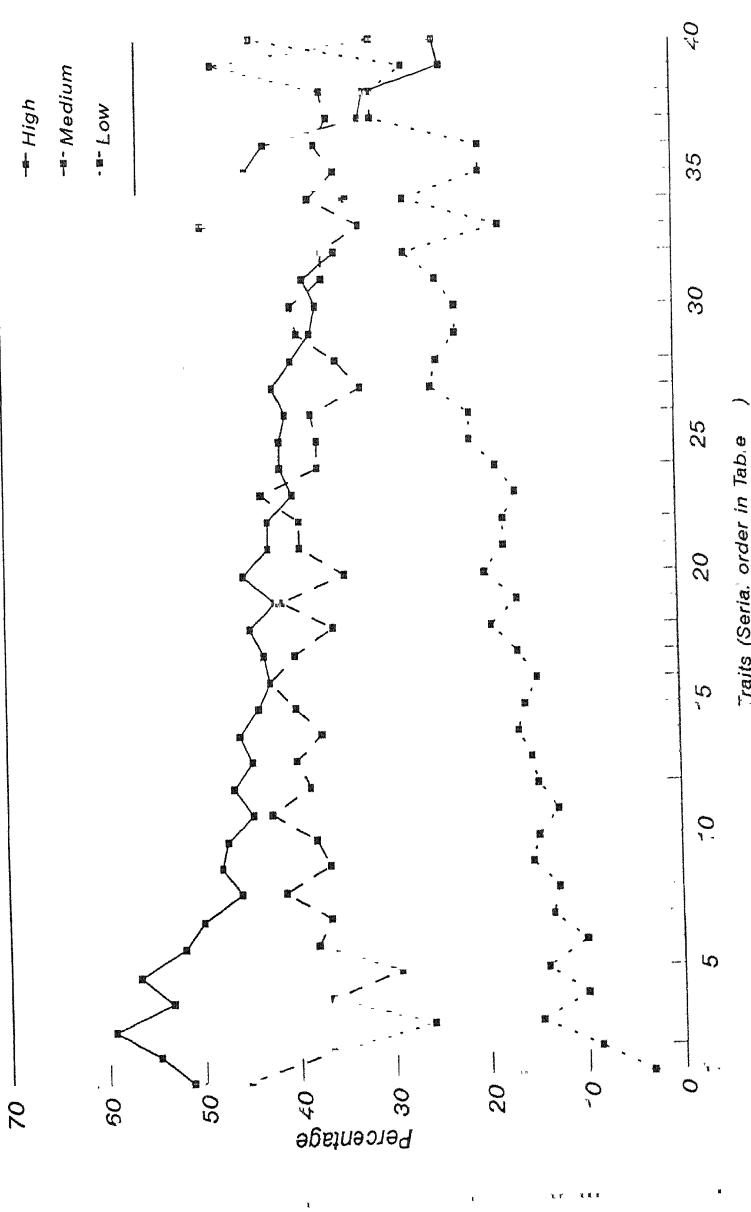


Figure 17. Entrepreneurial traits among Vietnamese producers

### *Relationship between Entrepreneurial Attributes and Dairy Income*

The zero order correlation co-efficients were found to know the relationship between dairy income and forty entrepreneurial attributes, namely, self-confidence, competitive spirit, ego-involvement, ego-strength, risk taking ability, decision-making ability, independent, desire for unique production, inner directedness, managerial skill, organizational ability, emotional tolerance, intelligence, achievement motivation, visualization ability, goal directed thinking, morale, coping up ability, physical tolerance, competence in skill, persuability, perseverance, coordinating ability, amicable nature, imaginative, sensitivity to problems, budgeting ability, flexible, enlightened belief, popularity, manipulator of situation, resourceful, inquiriness, integration capacity, reality orientedness, co-operative, communicability, observational ability, reasoning ability, and quality control capacity.

It may be seen from the Table 17 the correlation co-efficients in respect of inner directedness, visualization, inquiriness, goal directed thinking, morale, independent, physical tolerance, self-confidence, integration capacity, risk taking ability, managerial skill, decision making ability, ego-involvement, flexible, budgeting ability, amicable nature, manipulator situation, competitive spirit, imaginative, popularity were found significant at .01 level of probability and communicability, co-ordination ability, quality control capacity, organizational ability, competence in skill, reasoning ability, resourceful, sensitivity to problems, persuability and observational ability were found to be significant at .05 level of probability whereas reality orientedness, cooperation, perseverance, desire for unique production, achievement

motivation, enlightened belief, emotional tolerance, intelligence, ego-strength and coping with ability were found to be non-significant

It was noticed that there were high correlations between the individual entrepreneurial attributes and the dairy income indicating thereby each one of those attributes significantly contributed to their dairy income. In other words it is an indication for the abilities of members in carrying out the dairy enterprise. The moderate and low (not possessed) entrepreneurial attributes of the women milk producers must be developed through training, exposure to mass media, and education on dairy enterprise including personality traits of dairy entrepreneurs. There is a need for increasing opportunities to the members to seek information through several sources by multiplying the channels of information like mass media and interpersonal contacts and through extension institutions.

Table 17

## Correlation Co-efficients between Entrepreneurial Attributes and Dairy Income

S.No	Attributes	Correlation Co-efficients
1.	Inner directedness	.8891 **
2.	Visualization ability	.8684 **
3.	Inquiriness	.8521 **
4.	Goal directed thinking	.8221 **
5.	Morale	.8146 **
6.	Independent	.8042 **
7.	Physical tolerance	.7171 **
8.	Self-confidence	.6281 **
9.	Integration capacity	.5722 **
10.	Risk taking ability	.5622 **
11.	Managerial skill	.5124 **
12.	Decision-making ability	.4531 **
13.	Ego-involvement	.4424 **
14.	Flexible	.4421 **
15.	Budgeting ability	.3120 **
16.	Americiable nature	.2722 **
17.	Manipulator of situation	.2661 **
18.	Competitive spirit	.2597 **
19.	Imaginative	.2561 **

20.	Popularity	.2512 **
21.	Communicability	.2371 *
22.	Co-ordinating ability	.2361 *
23.	Quality control capacity	.2132 *
24.	Organizational ability	.2191 *
25.	Competence in skill	.2026 *
26.	Reasoning ability	.1982 *
27.	Resourceful	.1964 *
28.	Sensitivity to problems	.1963 *
29.	Persuability	.1956 *
30.	Observational ability	.1948 *
31.	Reality orientedness	.1892 NS
32.	Co-operative	.1832 NS
33.	Perseverance	.1787 NS
34.	Desire for unique production	.1784 NS
35.	Achievement motivation	.1675 NS
36.	Enlightened belief	.1535 NS
37.	Emotional tolerance	.1506 NS
38.	Intelligence	.1284 NS
39.	Ego-strength	.1204 NS
40.	Coping up ability	.1132 NS

\*\* P &lt; .01

\* P &lt; .05

NS = Not Significant

#### **G. Sources of Women Dairy Performance**

Women Dairy performance is referred as the combined effect of dairy income, impact on family and status of women. It is intended to know the association between dairy performance and SES, media exposure, extension and urban contact, entrepreneurial attributes, resource - support system, herd size, milk yield, awareness, attitudes, benefits derived from AWMPCS and motivational factors. The results are presented in percentages in Table 18 and  $\chi^2$  value was also calculated to estimate the association.

***SES and Dairy Performance.*** The results presented in Table 18 reveal that a higher percentage of women milk producers (60 per cent) had moderate dairy performance and 18.67 low performance. Among the high performance milk producers, a higher percentage of them belonged to the Middle Class (56.25 per cent), followed by 28.13 per cent to the Lower Middle Class, and 15.63 per cent to the Upper Middle Class; while a higher percentage of the women milk producers with low dairy performance (60.71 per cent) belonged to the Lower Middle Class, 35.71 per cent to the Middle Class and 3.57 per cent to the Upper Middle Class, indicating that majority of low dairy performers belonged to the Lower Middle Class. The association between SES and dairy performance was not statistically significant ( $\chi^2 = 6.6332$ , df = 4,  $P > .05$ ) indicating that all women milk producers were working hard for better performance irrespective of their socio-economic status to make the dairy enterprise a success.

Table 18

## Sources of Women Dairy Performance

Variables	Women Dairy			Total (N= 150)
	Low (N=28)	Moderate (N=90)	High (N=32)	
<b>SES</b>				
Upper Middle Class	1 (3.57)	11 (12.22)	5 (15.63)	17 (11.33)
Middle Class	10 (35.71)	42 (46.67)	18 (56.25)	70 (46.67)
Lower Middle Class	17 (60.71)	37 (41.11)	9 (28.13)	63 (42.00)
Total	28 (18.67)	90 (60.00)	32 (21.33)	150 (100.00)

$$\chi^2 = 6.6332 \quad df = 4 \quad P > .05$$

**Media Exposure**

Low	7 (25.00)	21 (23.33)	5 (15.63)	33 (22.00)
Middle	11 (39.29)	54 (60.00)	18 (56.25)	83 (55.33)
High	10 (35.71)	15 (16.67)	9 (28.13)	34 (22.67)

$$\chi^2 = 6.39362 \quad df = 4 \quad P > .05$$

*Extension and Urban Contact*

Low	8 (28.57)	14 (15.50)	5 (15.63)	27 (18.00)
Moderate	18 (64.29)	65 (72.22)	17 (53.13)	100 (66.67)
High	2 (7.14)	11 (12.22)	10 (31.25)	23 (15.33)

$$\chi^2 = 10.06244 \quad df = 4 \quad P < .05$$

*Entrepreneurial Attributes*

Low	4 (14.29)	15 (16.67)	1 (3.12)	20 (13.33)
Moderate	23 (82.14)	66 (73.33)	28 (87.50)	117 (78.00)
High	1 (3.57)	9 (10.00)	3 (9.38)	13 (8.67)

$$\chi^2 = 4.11348 \quad df = 4 \quad P > .05$$

*Resource-Support System*

Low	9 (32.14)	10 (11.11)	2 (6.25)	21 (14.00)
Medium	16 (57.14)	66 (73.33)	21 (65.63)	103 (68.67)
High	3 (10.71)	14 (15.56)	9 (28.13)	26 (17.33)

$$\chi^2 = 11.55643 \quad df = 4 \quad P < .05$$

*Herd Size*

≤ 1	24 (85.71)	31 (34.44)	2 (6.25)	57 (38.00)
2-3	4 (14.29)	58 (64.44)	14 (43.75)	76 (50.67)
4 and above	- (1.11)	1 (50.00)	16 (11.33)	17 (11.33)

$$\chi^2 = 86.92448 \quad \text{df} = 4 \quad \text{P} < .01$$

*Milk Yield (Hrs/day)*

Low (< 48)	26 (92.86)	28 (31.11)	1 (3.13)	55 (36.67)
Moderate (8-16)	2 (7.14)	47 (52.22)	15 (46.88)	64 (42.67)
High (> 16)	- (16.67)	15 (50.00)	16 (20.67)	31 (20.67)

$$\chi^2 = 62.17184 \quad \text{df} = 4 \quad \text{P} < .01$$

*Awareness*

Low	2 (7.14)	10 (11.11)	4 (12.50)	16 (10.67)
Moderate	19 (67.86)	67 (74.44)	24 (75.00)	110 (73.33)
High	7 (25.00)	13 (14.44)	4 (12.50)	24 (16.00)

$$\chi^2 = 2.21238 \quad \text{df} = 4 \quad \text{P} > .05$$

*Attitudes*

Low	1 (3.57)	8 (8.89)	3 (9.38)	12 (8.00)
Moderate	25 (89.29)	70 (77.78)	25 (78.13)	120 (80.00)
High	2 (7.14)	12 (13.33)	4 (12.50)	18 (12.00)

$$\chi^2 = 1.51680 \quad df = 4 \quad P > .05$$

*Benefits Derived*

Low	4 (14.29)	16 (17.78)	4 (12.50)	24 (16.00)
Moderate	15 (53.57)	49 (54.44)	22 (68.75)	86 (57.33)
High	9 (32.14)	25 (27.78)	6 (18.75)	40 (26.67)

$$\chi^2 = 2.28918 \quad df = 4 \quad P > .05$$

*Motivational Factors*

Low	2 (7.14)	12 (13.33)	5 (15.63)	19 (12.67)
Moderate	14 (50.00)	60 (66.67)	21 (65.63)	95 (63.33)
High	12 (42.86)	18 (20.00)	6 (18.75)	36 (24.00)

$$\chi^2 = 6.64803 \quad df = 4 \quad P > .05$$

**Media Exposure.** Table 18 gives information that a higher percentage of the women milk producers who had high performance in their dairy activity had moderate exposure to media (56.25 per cent), followed by 28.13 per cent high exposure to media, and 15.63 per cent low exposure to media. The association between exposure to media and dairy performance was not statistically significant ( $\chi^2 = 6.39362$ , df 4,  $P > .05$ ). These results indicate that in general the exposure of women milk producers belonging to all SES groups to mass media was low and hence, the association between performance and media did not appear to be significant.

**Extension and Urban Contact.** A higher percentage of women milk producers whose dairy performance was high had moderate (53.13 per cent) extension and urban contact, followed by 31.25 per cent high contact and 15.63 per cent low contact. Similarly, a higher percentage of the women milk producers who had low dairy performance had moderate urban and extension contact (64.29 per cent), followed by 28.57 per cent low urban and extension contact and 7.14 per cent high contact. The association between dairy performance and urban and extension contact was statistically significant at .05 level of probability ( $\chi^2 = 10.06244$ , df 4,  $P < .05$ ). These results indicate that wide travelling, contact with extension personnel and urban contact will bring high awareness and aspirations resulting in better performance and therefore field visits to other societies may also help for better dairy performance of women milk producers.

***Entrepreneurial Attributes.*** A higher percentage of high dairy performers had moderate entrepreneurial attributes (87.50 per cent), followed by 9.38 per cent high performance and high attributes and 3.12 per cent high performance and low attributes. The association between entrepreneurial attributes and dairy performance was not statistically significant ( $\chi^2 = 4.11348$ , df = 4,  $P > .05$ ).

***Resource-support System.*** The results presented in Table 18 revealed that a higher percentage of the high performers of dairy enterprise (65.63 per cent) had medium resource - support system, followed by 28.13 per cent high performance and high resource support system and 6.25 per cent high performance with low resource support system. The association between resource-support system and women dairy performance was statistically significant at .05 level of probability ( $\chi^2 = 11.55643$ , df = 4,  $P < .05$ ) indicating that higher the resource-support system the greater was the dairy performance.

***Herd Size.*** The women milk producers whose dairy performance was high had large herd size (4 and above), followed by 43.75 per cent who had 2-3 milch animals and 6.25 per cent 1 milch animal. Similarly, a higher percentage of women milk producers whose performance was low (85.71 per cent) had 1 milch animal, followed by 14.29 per cent who had 2-3 milch animals. None of the milk producers with herd size of 4 and above were low performers, indicating the higher the herd size the greater was the performance in dairy enterprise. The association between herd size and Women dairy performance was statistically significant at .01 level of probability ( $\chi^2 = 86.92448$ , df = 4;  $P < .01$ ).

**Milk Yield.** A higher percentage of the Women milk producers who had low milk yield had low dairy performance (92.86 per cent), followed by 7.14 per cent moderate milk yield, and none from high milk yield families were the low dairy performers. Similarly, a higher percentage of the high performers (50 per cent) had high yield of milk, followed by 46.88 per cent moderate milk yield and 3.13 per cent low milk yield indicating the higher the milk yield the greater was the dairy performance. The association between milk yield and dairy performance was statistically significant at .01 level of probability ( $\chi^2 = 62.17184$ , df = 4,  $P < .01$ ).

**Awareness.** The association between dairy performance and awareness of women milk producers toward All Women Milk Producers Cooperative Societies was not statistically significant ( $\chi^2 = 2.21238$ , df = 4,  $P > .05$ ).

**Attitudes.** A higher percentage of the women milk producers whose dairy performance was high had moderate attitudes (78.13 per cent), followed by 12.50 per cent high attitudes and 9.38 per cent low attitudes. The association between attitudes and dairy performance was not statistically significant. Similarly, the association between *benefits derived and dairy performance* was not statistically significant, ( $\chi^2 = 2.28918$ , df = 4,  $P > .05$ ), indicating that the benefits derived from the AWMPCS by the women milk producers were not adequate and as a result it had no significant influence on dairy performance.

**Motivational Factors.** A higher percentage of the women milk producers with moderate (65.63 per cent) and high (18.75 per cent) motivation had high dairy

performance. The association between Motivational factors and Women dairy performance was not statistically significant ( $\chi^2 = 6.64803$ , df = 4,  $P > .05$ ). These results indicate that the women milk producers have to be motivated high so as to have better performance. Generally, one's achievement depends on one's motivation.

### ***Relationship between Dairy Performance and Other Selected Variables***

In order to study the nature of relationship between dairy performance and other selected variables, SHS, attitudes, motivational factors, benefits derived from AWMPCS, milk yield, exposure to modern influences, status of women, entrepreneurial attributes, resource-support system, Correlation -Coefficients (r) were computed and the values were presented in Table 19. Table 19 presents the correlation matrix showing the inter relationships between dairy performance and other predictory variables for the total sample. The data revealed that the women dairy performance had positive and significant relationship with the predictory variables, viz., SES, resource-support system, milk yield and entrepreneurial attributes. These variables were found statistically significant and exerted influence on the response variable women dairy performance. A high correlation was found between dairy performance and milk yield (.909), while low correlation was found between dairy performance and SHS (.221), and resource-support system (.381). These low correlations indicate that the resource-support system and SHS had to be improved further so as to exert high impact on dairy performance. Dairy performance had very low correlation with attitudes (.052), motivational factors (.128), exposure to modern influences (.073), status of women (.153), entrepreneurial attributes (.176)

indicating that these variables are weak and have to be strengthened further so as to exert influence for better dairy performance. For instance, motivational factors had negative correlation with SES, attitudes and benefits derived. This itself is an indication that those women milk producers who were enjoying the benefits from All Women milk producers Cooperative Societies had formed high attitudes towards dairy enterprise and they were highly motivated to develop their dairy enterprise so as to improve their SES. Therefore, there is every need for further strengthening of these variables to have greater dairy performance. It had negative correlation with the variable benefits derived (-.113) indicating that the benefits derived by the women milk producers from the AWMPCS were not up to their expectations and hence, it was negatively correlated. The inter item correlations were also found mostly low and modest corrections (Louis Cohen and Michael Holliday : 1982).

Table 9

Correlation Matrix Showing Women Dairy Performance and other Selected Variables for the Total Sample (N = 150)

Variables	1	2	3	4	5	6	7	8	9	10
1. Dairy Performance										
2. SES	.22**	-								
3. Attitudes	.352	.56**	-							
4. Motivational Factors	.28	-.558**	-.373**	-						
5. Benefits Derived	-.113	-.52**	-.373**	.369**	-					
6. Milk Yield	.505**	.248**	.327	-.56	-.33	-				
7. Exposure to Vocational Influences	.373	-.76*	-.64*	-.34	.233**	-.515	-			
8. Status of Women	.53	-.395	-.68*	.515	.556	.27	.024	-		
9. Entrepreneurial Activities	.76*	.550	-.248	-.66*	-.322	.205*	.044	-.25*	-	
10. Resource-support System	.38**	.555	-.004	.305	.476**	.387**	.263**	.228**	.119	-

\*\*  $p < .05$  \*  $p < .01$

***Combined Effect of Dairy Income of Women milk producers with other***

***Selected Variables.*** In order to determine the combined effect of all the selected variables in explaining variance in dairy income of the members, Multiple Linear Regression Analysis was carried out. Multiple Linear Regression Analysis is used to estimate the values of one variable (dependent variable) from a knowledge of the values of several related variables (independent variables). The computed coefficient of multiple determination ( $R^2$ ) value and partial regression co-efficient (b) values with their corresponding t-values are presented in Table 20. The 'R<sup>2</sup>' and 'b' values were tested statistically for their significance.

The results indicate that the coefficient of multiple determination ( $R^2$ ) was significant as the F-value was found to be significant. The  $R^2$  value of .830151 indicated that all the eight selected variables put together explained about 83 per cent of variance in dairy income of the women milk producers. In general, a multiple correlation coefficient (R) of .7 or above (i.e.,  $R^2 \geq .49$ ) is considered of having high relationship (Louis Cohen and Michael Holliday : 1982). The greater proportion of variance in dairy income is accounted for by the combined effects of the selected variables as presented in Table 20.

The t-values of partial regression coefficients presented in Table 20 further indicate that the selected variables, exposure to modern influences and milk yield were found significant at .01 level of probability, indicating that these two variables had contributed positively and significantly to most of the variance in dairy income of the women milk producers.

Table 20

## Multiple Linear Regression Analysis of the Dairy Income of Women Milk Producers with other Selected Variables (N=150)

S.No.	Variables	Partial regression co-efficient values	Computed t - values
1.	Age	1.6285	0.8092
2.	Education	19.2503	1.2533
3.	SES	-4.1696	-1.0873
4.	Exposure to modern influences	9.1573	2.9230**
5.	Resource-support system	5.7265	0.6607
6.	Milk yield	100.5398	22.3957**
7.	Motivational factors	21.9524	0.9692
8.	Benefits from AWMPCS	-12.7132	-0.9345

$$R^2 : 0.830151 \quad F - \text{value} : 91.85734^{**}$$

As indicated by the  $R^2$  value it may be concluded that the variables selected to a large extent explained the variance in dairy income of the women milk producers. In other words, the variables selected for the study are relevant to the problem selected. The more milk yield leads to more dairy income and hence, milk yield was found positively significant relationship.

Exposure to modern influences includes media, urban contact and extension contact. Extension agency is the best and reliable source for the women milk

producers and those who had contact with the change agents would be in touch with the latest information which in turn help them gain more income. Media exposure of women milk producers to various communication channels like Radio, Television, News Papers and their frequent consultation with the field Animal Husbandry personnel for technical assistance and advise might have helped them to have more dairy income. Urban contact exposes the women milk producers to different aspects of entrepreneurship and hence the exposure to modern influences was found positively significant relationship with dairy income.

*Combined Effect of Attitudes of the Members toward All Women milk producers Cooperative Societies and Dairy Enterprise with other Selected Variables.* In order to determine the combined effect of all the selected variables in explaining variance in attitudes of members, Multiple Regression Analysis was carried out. The computed coefficient of multiple determination ( $R^2$ ) and the partial regression coefficient (b) values with their corresponding t-values are presented in Table 21. The  $R^2$  and 'b' values were tested statistically for their significance.

The results presented in Table 21 revealed that the coefficient of multiple determination value ( $R^2$  - 0.4891607) was significant as the F-value (16.87704) was found significant. The  $R^2$  value indicated that all the selected eight predictory variables put together had explained about 49 per cent variance in attitudes of the respondents towards All Women Milk Producers' Cooperative Societies and dairy enterprise. It may be concluded that there is high relationship between attitudes and

Table 21

Multiple Linear Regression Analysis of the Attitudes of  
the Women Milk Producers towards AWMPCS and Dairy Enterprise with  
Other Selected Variables (N 150)

S.No.	Variables	Partial regression co-efficient values 'b'	Computed t-values
1.	Age	0.1127	2.5286*
2.	Education	0.2427	0.7131
3.	SES	0.6187	7.2834**
4.	Exposure to modern influences	0.0823	1.1860
5.	Resource-support system	0.1108	0.5769
6.	Milk yield	-0.1801	-1.8115
7.	Motivational factors	0.7749	1.5444
8.	Benefits derived from AWMPCS	-0.3064	-1.0166
$R^2 : 0.4891607$		$F - \text{value} : 16.87704^{**}$	$^{**} P.01$

other selected variables and the greater proportion of variance in attitudes was accounted for by the combined effects of selected variables.

The partial regression co-efficient presented in Table 21 further indicates that the selected variables, i.e., age and SES were found positively significant as evident from their significant t-values. This implies that SES and age had positively and significantly contributed to most of the variance in attitudes of members towards AWMPCS and dairy enterprise in general. The variable age showed positive and

significant relationship with dairy income. This might be due to the fact that the women milk producers were mostly middle aged and young who had the required stamina to perform different activities of dairy farming and generating more dairy income. Hence, this variable 'age' had indicated significant and positive relationship with dairy income.

The socio-economic status showed positive and significant relationship with the attitudes of women milk producers. This might be due to the fact that the women having high socio-economic status had surplus money with which they purchased good quality of feed and medicines. This led better cattle management and more profits and hence, formed positive attitudes toward dairy enterprise. Hence, SES was positively and significantly related with the attitudes of women milk producers.

The Multiple Linear Regression Analysis of awareness of members towards AWMPCS with other selected variables was also carried out. But the coefficient of multiple determination ( $R^2 = 0.09136076$ ) indicates very low relationship and the proportion of variance in awareness accounting for by the combined effects of the selected variables was very low (Appendix F : Table 14).

***Combined Effect of Entrepreneurial Attributes of Women milk producers with the Selected Variables.*** In order to determine the combined effect of all the selected variables in explaining variance to the extent of entrepreneurial attributes of women milk producers, Multiple Linear Regression Analysis was carried out. The computed coefficient of Multiple Determination ( $R^2$ ) value and the Partial Regression

Coefficient (b) values with their corresponding t-values are presented in Table 20. The 'R<sup>2</sup>' and 'b' values were tested statistically for their significance. The results presented in Table 22 reveal that the coefficient of Multiple Determination (R<sup>2</sup>) value was significant as the F-value (3.5017) was significant. The R<sup>2</sup> value of 0.1657507 indicates that all the eight selected variables put together had explained about 17 per cent of variance to the extent of entrepreneurial attributes of the women milk producers.

Table 22

Multiple Linear Regression Analysis of the Entrepreneurial Attributes of The Women Milk Producers with Other Selected Variables (N = 150)

S.No.	Variables	Partial regression co-efficient values 'b'	Computed t-values
1.	Age	0.5595	-3.1595**
2.	Education	1.7345	1.2833
3.	SES	-0.6010	-1.7810
4.	Exposure to Modern Influences	0.1078	0.3911
5.	Resource-support System	0.4286	0.5619
6.	Milk Yield	0.8600	2.1769*
7.	Motivational Factors	-3.7005	-1.8566
8.	Benefits derived from AWMPCS	-0.2879	-0.2405
$R^2 : 0.1657507$		$F - \text{value} : 3.501779**$	$P < .01**$

It may be inferred from the Partial Regression Coefficient presented in Table 22 further inferred that the selected variables, age and milk yield were positively significant as evident from their significant t-values. This implies that the age and the milk yield had positively and significantly contributed to most of the variance in entrepreneurial attributes of the members of women milk producers dairy cooperative societies. The higher the socio-economic status, the more will be the entrepreneurial attributes of the members. This in turn leads to the better performance of the dairy enterprise. Hence, the socio-economic status was found positively significant. There is a fair representation of women milk producers from all age groups up to 45 to 55 years. They had all the enthusiasm to improve their income levels by taking up dairy activity and hence, the women milk producers might have been more enthusiastic to learn many things and hence, age was found positively significant with entrepreneurial attributes.

***Dairy Enterprise and its Impact on Family and Status of Women and Combined Effect of Selected Variables.*** The Multiple Linear Regression Analysis was carried out to determine the combined effect of the selected variables in explaining the extent of variance impact on family and status of women milk producers. The computed coefficient of Multiple Determination ( $R^2$ ) value and the Partial Regression Coefficient (b) values with their corresponding t-values are presented in Table 23. The ' $R^2$ ' and 'b' values were tested statistically for their significance. The  $R^2$  value of .1772163 indicated that the selected eight variables put together explained about 18 per cent variance in the extent of impact on family and

status of women. The Coefficient of Multiple Determination ( $R^2$ ) value was significant as the F-value (3.79618) was found significant. It may be further inferred that Partial Regression Coefficients presented in Table 21 that the selected variables, age, SES, resource-support system, and motivational factors were positively significant as evident from their significant t-values. This implies that age, SES, and motivational factors were negatively and significantly contributed to the variance in status of women and the impact on family while the variable resource-support system had positively and significantly contributed to the variance in status of women and the impact on family.

Table 23

Multiple Linear Regression Analysis of the Impact of Daily Enterprise  
on Family and Status of Women Milk Producers with  
Other Selected Variables (N = 150)

S No	Variables	Partial regression coefficient value 'b'	Computed t-values
1	Age	0.1584	-2.6829**
2	Education	0.3144	0.6974
3	SES	-0.3129	-2.7808**
4	Exposure to Modern Influences	0.0233	0.2532
5	Resource-support System	0.6449	2.5354*
6	Milk Yield	0.1404	1.0658
7	Motivational Factors	-1.5951	-2.3996*
8	Benefits derived from AWMPCS	-0.4242	-1.0625

( $R^2$  : 0.1772163) , (F- value : 3.796183)\*\*

The women milk producers belonging to all the age groups were active in dairy activity and hence, age was negatively associated with the response variable, impact on family and status of women. The higher the socio-economic status the greater was the male dominance in the families of the women milk producers. The milk producers belonging to Lower Middle Class enjoyed better status in their families than the women milk producers belonging to the Upper Middle Class. Therefore, the association between SES and the impact on family and status of women was negatively and significantly associated. The higher the resource-support system the greater was the emergence of women dairy entrepreneurship and the resultant positive impact on family and status of women. Hence, resource-support system was found positively significant. Motivational factors are the causal factors for high aspiration and achievement. In the present study, the women milk producers were not highly motivated and hence, the variable motivational factors were found negatively significant.

***Factor Analysis for the Selected Variables of Dairy Performance.*** The coefficient of multiple determination ( $R^2$ ) only tells us about the combined effects of the selected variables, not what the relative contribution of each of the selected variables is. Hence, the data obtained for the ten selected variables, viz., SES, awareness, attitudes, motivational factors, benefits from AWMPCS, resource - support system, exposure to modern influences, entrepreneurial attributes, dairy income, and their impact on family and status of women, were subjected to Orthogonal Factor Analysis (Cooley and J ohnes, 1971: 129-167). The advantage of

using Orthogonal Factor Analysis lies in the independence of the factors. The primary objective of this analysis was to determine the extent to which the common factor variance of each variable is accounted for, on the first two factors.

Table 24 shows the factor loadings and the common factor variance ( $h^2$ ) and the percentages. It is observed that SFS (16.65 per cent), milk yield (15.12 per cent), dairy income, impact on family and status of women (15.31 per cent), benefits from AWMPCS (12.99 per cent), resource-support system (11.29 per cent), motivational factors (10.32 per cent) and attitudes (11.84 per cent), the seven variables together accounted for 93.52 per cent of the variance generated by the two factors together. In other words, these selected variables were relevant for the study carried out. The other variables, viz., awareness (0.72 per cent), exposure to modern influences, (1.40 per cent) and entrepreneurial attributes (4.36 per cent) together generated 6.48 per cent of variance, i.e., they made very low and insignificant contribution to the dairy performance.

In the first factor, the variables, awareness, exposure to modern influences, entrepreneurial attributes and resource-support system, dairy income and milk yield had very low loadings indicating the low contribution towards dairy performance. In the second factor the variables - milk yield, dairy income, impact on family and status of women and resource-support system had high loadings indicating the greater contribution towards dairy performance. It may be concluded that among the 10 selected variables, SFS, attitudes, motivational factors, benefits from AWMPCS, milk

yield, resource - support system, dairy income, impact on family and status of women were contributing high towards dairy performance while the variables,

Table - 24  
Factor Analysis of the Variables of Dairy Performance

Variables	Factors					
	$a_1$	$a_2$	$a_1^2$	$a_2^2$	$h^2$ $(a_1^2 + a_2^2)$	%
SES	0.877	-0.133	0.769	0.018	0.787	16.65
Awareness	-0.152	0.105	0.023	0.011	0.034	0.72
Attitudes	0.746	0.063	0.556	0.004	0.560	11.84
Motivational Factors	-0.680	0.162	0.462	0.026	0.488	10.32
Benefits from AWMPCS	-0.758	-0.200	0.574	0.040	0.614	12.99
Milk Yield	0.234	-0.813	0.054	0.661	0.715	15.12
Exposure to Modern Influence	0.076	-0.246	0.006	0.060	0.066	1.40
Dairy Income, Impact on Family and Status of Women	0.217	-0.823	0.047	0.677	0.724	15.31
Entrepreneurial Attributes	0.040	-0.453	0.001	0.205	0.206	4.36
Resource-support System	-0.203	-0.702	0.041	0.493	0.534	11.29
					4.728	

awareness, exposure to modern influences and entrepreneurial attributes have to be strengthened by evolving extension strategies for the development of dairy farming, and in particular, All Women milk producers Cooperative Societies.

In addition to the results obtained from the factor analysis the data were subjected to the relatively more sophisticated technique of Step-wise Multiple Regression Analysis. The variable, milk yield had explained 82.65 per cent of variance and the rest of the variables had very insignificant contribution towards dairy performance. An attempt is also made to estimate the impact of dairy enterprise on family and status of women. The Step-wise Regression Analysis revealed that the variable entrepreneurial attributes had explained 17.61 per cent of variance followed by resource-support system which contributed 4.64 per cent of the variance towards family and status of women. Thus, the analysis reveals in the first step that the variable milk yield had high contribution towards dairy performance while entrepreneurial attributes and resource-support system had contributed towards the family and status of women (Appendix F: Table 15).

It may be concluded that the role of dairy enterprise in integrated rural development and in particular the empowerment of women is vital and a catalyst. In fact, it has a potentiality for the development of weaker sections, in particular, women with larger share of income and employment. The development of dairy enterprise depends mainly on three aspects, viz., making optimum use of the resource-support system, improved quality of the milch animals to increase the yield and also the

optimum use of the available yield. The dairy industry is trying to bridge the gap between the rural producer and the urban consumer. Improvement in production and productivity and better remunerative price with assured market would help to increase dairy farming. Dairy enterprise could be an effective instrument in improving income levels of rural poor and also provides regular household income. The overall effects of dairy development have been reflected in their per capita food consumption pattern and in their possession of assets like T V, radio, tape-recorder, simple furniture and domestic appliances.

Direct and indirect economic impact of cooperative dairying which have catalytic effect on family and status of women are generally so strong that it could be justified that dairy is an imperative instrument of economic and social change. The working of AWMPCS at village level has been instrumental in breaking the barriers of class and caste to some extent because all these differences are not recognised in the day-to-day working of the cooperative societies. These changes are least opposed to the village community because of the realisation of economic benefit to the producer in the form of assured market of all seasons, stable and remunerative price and higher returns of dairying due to modernisation of feeding and breeding management extended by the AWMPCS. Another change expected from the AWMPCS is adequate awareness, achievement motivation, favourable attitudes, and development of entrepreneurial attributes. The results in the present study are contrary to this. The success of AWMPCS had a good demonstration effects giving women milk producers a sense of confidence on their ability to improve their income

levels with their own efforts. Payments for milk strictly on the basis of the measured quantity and tested quality may help women milk producers gain more confidence and encourage them to come forward for risk taking. They could have been the recipients of dairy development programmes in larger number and this could have made possible for the development of large number of AWMPCS with good success, functioning and organisational ability. The dairy farming has a strong institutional support base like AWMPCS, dairy union, NDDB, APDDC which have played a major role in ensuring some of the benefits and support services in particular to women's Dairy Cooperatives. Thus, the growth of AWMPCS is an instrument for an economic and social change, in particular in the families of women milk producers resulting in better status for women.

For decades, the critical question that dominated the minds of development experts and policy makers has been to identify organisational/institutional mechanisms that relieve the poor from the vicious circle of poverty. Their search brought to light indigenous movements in many parts of the country that have mobilised women into an organisational framework linking cooperatives into mass social movements effectively addressing the critical needs of the poor such movements acquire significance especially in a situation where feminisation of poverty has intensified the daily struggle for women and children more than the others. Living in abject poverty and marginalised socially and economically, women often take upon themselves not only social burdens but also economic responsibilities of the family, with no recognition for their valuable contribution. Majority of them are economically active

in the informal sector of labour segment, characterised by low wages, low productivity, low skill levels, and high turn over which vendors them vulnerable.

Cooperatives are appropriate mechanisms to increase production and for full utilisation of resources, in bringing about equality of opportunity and social justice. Cooperatives can serve as a viable alternative in addressing the social and economic needs of the poor, in particular the farm women, as an institutional mechanisms towards distributive justice.

The efforts of social mobilisation towards social integration and economic stability by the grass root cooperative mechanism have empowered farm who now have the initiative to take up social challenges such as caste, class and gender oppression. The organisational framework helped poor women participate at all levels, realise their collective strength and break the barriers of caste inferiority, class exploitation and mole dominance.

Access to credit especially to landless has improved both the social and economic status of women. In visible terms, women have been able to invest their increased income on children's education, pay off their previous debts, for better health and nutritional status of their families and to increase the volume of their dairy activity.

## **CHAPTER 5**

**SUMMARY,  
IMPLICATIONS  
AND  
SUGGESTIONS FOR FUTURE RESEARCH**

The Study of Women Dairy Cooperatives was carried out in Chandragiri Mandal, Chittoor District of Andhra Pradesh. The sample consisted of 150 women milk producers was chosen for the present study using the Proportionate Random Sampling. All 150 women milk producers belonging to 9 All Women Milk Producers' Cooperative Societies were scattered in 9 Villages, Viz., Ananthagurrapagariipalli (N 12), Ithepalli (N 23), Kottala (N=17), Kongaravaripalli (N 19), Kuchivaripalli (N 10), Moravapalli (N 10), Mungilipattu (N 29), Pullaiahgaripalli (N 20) and Seshapuram (N 10) of Chandragiri Mandal, Chittoor District. Ex-post facto research design was used for conducting the study.

The objectives of the study are as follows:

1. To analyse the Socio-economic Status (SES) of members of All Women Milk Producers' Cooperative Societies and also examine income and liabilities of their families.
2. To examine the services rendered and extent of benefits derived by the members from All Women Milk Producers' Cooperative Societies.
3. To estimate the dairy incremental income of milk producers of All Women Milk Producers' Cooperative Societies and examine their association with the background and predictor variables.
4. To examine the impact of dairy entrepreneurship on the families of women milk producers.
5. To examine the entrepreneurial characteristics of the members of All Women Milk Producers' Cooperative Societies and analyse their association with dairy entrepreneurship.

6. To assess the effects of modern influences like mass media and contact with extension agency on dairy performance.
7. To study the awareness, attitudes and self-perceived satisfaction of women milk producers towards AWMPCS and dairy enterprise.
8. To analyse and understand the relationship between the predictory variables, *viz.*, SES, media exposure, extension contact, awareness and attitudes toward AWMPCS, entrepreneurial attributes, resource-support system, milk yield, dairy income, impact of dairy on family and status of women and also assess the contribution of all these variables towards dairy performance.
9. To examine the problems and suggest solutions for effective functioning of All Women Milk Producers' Cooperative Societies and also for the successful implementation of dairy programme.

In pursuance of these objectives, four interview schedules were developed and the data were collected through interview method in Telugu. An attempt was made in this chapter to present the summary of the major findings of the study based on the major trends in the data. The implications of these findings leading to suggestions have been presented subsequently, followed by future research.

#### ***A. Profile of All Women Milk Producers' Cooperative Societies***

A higher percentage of the women milk producers' cooperative societies were established in 1984-86 (77.78 per cent) and majority of these societies were registered (77.78 per cent) in 1987 and after. With regard to *area of operation*, these societies

on an average covered 180 households, 86 members and 9 non-members. With regard to *membership pattern*, a higher percentage of the general body members belonged to the Forward Castes (53.62 per cent), Backward Castes (30.31 per cent) and Schedule Castes (16.06 per cent). As regards the membership in Governing Body, a higher percentage of them were Forward Castes (44.44 per cent), followed by Backward Castes (33.33 per cent) and Scheduled Castes (22.22 per cent). The AWMPCS had possessed the *herd size* with more number of she-buffaloes (270), Cows (250), Desi Cows (247) followed by cross-breed cows (79). On an average each society had the herd size of 94 milch animals. The average annual *milk procurement* per day was 175.2 ltrs.

The management of the society is vested in the hands of General Body and the Governing Body comprising President and eight Directors. Hundred per cent of the AWMPCS were conducting meetings once in a month and the attendance of members ranged from 70-100. In 44.44 per cent of the societies special meetings were also held. In each society 23 registers were maintained and a higher percentage of them (88.89 per cent) were maintaining the registers up to date. In all the societies the minimum equipment such as buerometer, lactometer, AI equipment, first-aid box, milk measuring sets etc., was available, while centrifuge and milk collection cans were found inadequate. The *services* rendered by the AWMPCS to the members were cattle loan (Rs. 8300) to six women members (landless SC, ST, BC), supply of cattle feed with 25 per cent subsidy, calf feed with 50 per cent subsidy to all its members, and fodder development by enriching paddy straw with urea spray. Under Animal

In Health Care there were 500 veterinary first-aid centres and 76 Artificial Insemination Centres, and the Chittoor Union achieved 50 to 55 per cent of conception rate. First-aid drugs were supplied by the Union from generated funds. The societies were attended by the Veterinary Assistant Surgeons on fixed dates in a week. Regular *extension lectures* to the producers at society level were given on managerial practices, animal disease, their prevention and feeding.

Under the Telugu Grameena Kranthi Padham 366 milk society buildings for the benefit of farmers were constructed with 50 per cent contribution from the farmers. The data revealed that these society buildings were constructed in 44.44 per cent of the sample societies. The popular district agencies like DRDA, DPAP, TRYSHM had financed the schemes for dairy development activities through the Chittoor District Milk Producers' Cooperative Union.

#### ***B. Socio-economic Conditions of the Women Milk Producers***

The socio-economic characteristics of women milk producers comprising the variables like age, religion, caste, occupation, education, social participation, land, house, farm power, material possessions, type and size of family, income, liabilities and savings were examined and the status of the women milk producers was analysed. A higher percentage of the women milk producers were Hindus (98.66 per cent), married (86 per cent), below 45 years (65.23 per cent) and cultivators (70 per cent). A higher percentage of them belonging to the Forward Castes (57.33 per cent), followed by Backward Castes (32.66 per cent) had membership in one organisation

(79.33 per cent), and majority of them were illiterates (51.33 per cent). Majority of the women milk producers had the landholding up to 5 acres (48 per cent), farm power of 1-2 milch animals (80.67 per cent). Majority of them were living in huts, kutcha, and partly kutcha houses (69.33 per cent) and had the material possessions like radio (76.66 per cent), cycle (57.33 per cent), and little furniture (48.66 per cent). Majority of them belonged to nuclear families (51.33 per cent) and they had up to 5 members in their families (75.33 per cent).

Majority of women milk producers had the *annual income* up to Rs.15,000 (58.67 per cent) and among them 16.67 per cent were living below the Poverty Line. Majority of them (38.67 per cent) had the liabilities ranging from Rs.3,000 to Rs.6,000 and a higher percentage of them borrowed money from the Agricultural Development Bank (36.67 per cent), and from the pawn brokers (30.67 per cent) with an interest ranging from 24 per cent to 48 per cent. A higher percentage of women milk producers had utilised the loan for productive purposes (97.14 per cent) such as purchase of auto, rickshaw and tailoring machine or to start petti business for farm expenses and also for children's education. A higher percentage of their children had secondary education (32.43 per cent), followed by primary education (21.24 per cent) and school drop-outs (28.57 per cent). With regard to savings majority of them (52.67 per cent) had the savings ranging from Rs.2000/- to Rs. 6000/- and a higher percentage of them had savings through Chits (38 per cent) and 27.33 per cent of them were giving loans to others at an interest ranging from 36 per cent to 84 per cent.

The socio-economic status of women milk producers was estimated using the scale of Udaipareek and Trivedi and found that majority of women milk producers were in the categories of up to Middle Class (88.67 per cent) and none of them belonged to the Upper Class. The relationship between SES and dairy performance was found statistically significant ( $r = .221$ ) at .01 level of probability.

**C. *Awareness and Attitudes toward All Women Milk Producers' Cooperative Societies (AWMPCS)***

Hundred per cent of the women milk producers were aware that only women were eligible to become the members of AWMPCS and 94.67 per cent of them were aware of the membership fee (Rs. 10+1). A higher percentage of the women milk producers (95.33 per cent) had known the President of the society while the paid Secretary was known to 98 per cent of the women milk producers. The women milk producers belonging to all the three SHS groups had very low knowledge in cooperative principles, by-laws and functions of AWMPCS (Mean = 1.91). They had very low knowledge about the function of AWMPCS. The women milk producers belonging to all the three SHS groups had greater awareness of the inputs and services rendered (Mean = 2.96) by the AWMPCS. A higher percentage of them reported feed and fodder (66 per cent), followed by 50 per cent Veterinary services, 30 per cent cattle insurance and 23.33 per cent cattle loan as the inputs and services rendered by the AWMPCS. Hundred per cent of them had reported that the milk should be supplied to the society at least for 90 days in half a year. Hundred per cent of the women milk producers had also felt that the AWMPCS were useful for the

development of weaker sections. The women milk producers had maximum knowledge (Mean 4.99) in respect of the meetings conducted and elections held for AWMPCS. A higher percentage of the societies (99.33 per cent) were holding meetings regularly, 98.67 per cent of the women milk producers were found participating in these meetings and they found these meetings were useful to discuss the problems of milk producers (65.33 per cent), profit or loss of the society (25.33 per cent) and also the state of the affairs of the society (28 per cent). About the advantages of AWMPCS, the knowledge of the women milk producers was poor (Mean 3.72). The advantages of AWMPCS as revealed by the higher percentage of the women milk producers were the availability of green grass (84.67 per cent), vaccination facility (84.00 per cent), cattle feed availability (41.33 per cent), increase in self-employment opportunity for women (34.67 per cent). Hundred per cent of the women milk producers felt that because of the AWMPCS women's participation in dairy enterprise had increased.

With regard to the attitudes towards dairy cooperatives the results revealed that the women milk producers as a whole (Mean 35.37) had better favourable attitudes and also indicated that the higher the socio-economic status the greater was the positive attitude towards dairy enterprise and All Women Milk Producers' Cooperative Societies (AWMPCS). With regard to the self-perceived satisfaction of the women milk producers towards AWMPCS it was found that they had better satisfaction (Mean 3.87) towards AWMPCS. The women milk producers belonging to the Upper Middle Class had perceived definitely greater satisfaction towards

AWMPCS when compared to the Middle Class and Lower Middle Class respondents. The Mean differences were also found statistically significant at 0.01 level of probability. The association between the attitudes and the background variables such as caste ( $\chi^2 = 16.0119$ , df = 4, P < .01), occupation ( $\chi^2 = 21.91385$ , df = 6, P < .01), education ( $\chi^2 = 11.2554$ , df = 4, P < .05), landholding ( $\chi^2 = 24.5556$ , df = 6, P < .01), type of family ( $\chi^2 = 6.3102$ , df = 2 P < .05) and SES ( $\chi^2 = 113.27513$ , df = 4, P < .01) was statistically found significant. Attitudes exert influence on the members to take active part in the dairy enterprise and in the activities of AWMPCS in which they are members. Since, SES and attitudes are significantly associated there is every need to strengthen the important SES variables such as education, occupation, land holding and farm power.

#### *D. Emergence of Women Dairy Enterprise*

*The resource-support system* consists of the aspects relating to previous work experience and family assistance, farm inventory and dairy equipment, motivational factors, veterinary and health services and support services. The results revealed that the women milk producers belonging to the Lower Middle Class (Mean = 3.24) were motivated better than the milk producers belonging to the Middle Class and the Upper Middle Class, indicating that the officials had contacted them with their frequent visits as it was the motto of the AWMPCS to encourage weaker sections to take part in the dairy enterprise. The motivational factors as reported by the women milk producers were facility in obtaining financial help (85.33 per cent), advise by the officials (66 per cent), motivated by family members, relatives and

friends (42.61 per cent), economic need (48 per cent) and to utilise their dairy skill (14.67 per cent). With regard to *Previous work experience* and family assistance, the Mean score for the total sample (Mean = 5.83) was very low indicating that the previous work experience and assistance from family members towards dairy activity was poor. Perhaps it may be due to the recent establishment of AWMPCS and the emergence of dairy enterprise among the weaker sections. The Mean differences between SIS groups were statistically significant indicating that the Lower Middle Class had less of previous experience and family assistance.

A higher percentage of women milk producers had become members of AWMPCS in 1986 and 1987 (65.34 per cent) and had 7-8 years of experience as members of AWMPCS. Before starting the AWMPCS 20 per cent of these women respondents were engaged in dairy business and the rest of 80 per cent milk producers emerged as dairy entrepreneurs only after establishing the AWMPCS; 22 per cent of these women milk producers were getting help in their milk business from their husbands, and 30 per cent from the elders of the family. They were also getting help from the school going children, both boys (21.33 per cent) and girls (30.67 per cent), school drop-outs and non-starters, both boys (32 per cent) and girls (38.67 per cent). Children were assisting more than the other members of the family and in particular the girls indicating that the dairy enterprise was more associated with the women work force. A higher percentage of women milk producers (40 per cent) were spending 2-3 hours in a day on dairy activity followed by 37.33 per cent 1-2 hours, and 22.67 per cent 3-4 hours. Majority of women milk producers were

spending most of their time on farm work, followed by domestic work and dairy activity. They were spending very less time on children's education which is an important aspect of family.

The Upper Middle Class women milk producers had better farm inventory and dairy equipment (Mean = 11.65) than the Lower Middle Class (Mean = 10.68). The results revealed that there was a greater increase in the herd size of the milch animals in the families of women milk producers, numbering from 42 before membership to 846 after membership thereby showing an increase of 20 times in herd size of milch animals. This trend is an admirable achievement on the part of AWMPCS and milk producers. The problems reported by the women milk producers were non-availability of green fodder, dry fodder and concentrates (35.92 per cent), high cost inputs (34.95 per cent), poor quality of green fodders, dry fodder and concentrates (29.13 per cent). The results suggested that the milk producers' union should provide the inputs at low cost and every milk producer should have either an individual piece of landholding or cooperative joint landholding to grow green fodder. The Union should also make special effort to improve the fodder and concentrates. Hundred per cent of the women milk producers had possessed the necessary dairy equipment to run the dairy enterprise and 63.33 per cent had possessed separate cattle shed.

The veterinary and health services were available to majority of the women milk producers (Mean = 4.93). A higher percentage of them (92.67 per cent) were consulting the veterinary doctors and they were fully satisfied (70.67 per cent) with

the doctor's help for animal's health care Majority of them (58.66 per cent) were spending Rs. 32-40 on animals' health care indicating that the women milk producers were getting adequate health care and expenditure incurred by them on health care of the milch animals was within their capacity. With regard to support services the women milk producers belonging to the Lower Middle Class were getting better support services (Mean = 9.06) than the Middle (Mean = 7.07) and the Upper Middle Class (Mean = 6) women milk producers. The main objective of the cooperative movement is to help the weaker sections and therefore they were provided with the maximum support services when compared with the other two SES groups. This will help for uplift of weaker sections and also for the poverty alleviation. A higher percentage of women milk producers had availed themselves of the facility of Artificial Insemination (74.00 per cent), pregnancy tests (62.67 per cent), emergency veterinary aid (61.33 per cent), supply of green fodder (60 per cent), cross breeds (52.67 per cent), training programme for women (52 per cent), balanced feed (48 per cent), seedlings (41.33 per cent), grass seeds (40 per cent) financial benefits (25.33 per cent), veterinary aid (25.33 per cent), loans from the bank (20.67 per cent) and field trips (18.67 per cent). On the whole, the Mean score of the total sample (Mean = 32.35) which is half of the maximum score indicates that the poor resource-support system was availed by the women milk producers.

***Herd size, Milk Yield and Dairy Income.*** The Mean of the total sample (Mean = 1.75) for herd size (wet animals) indicates that on an average the women milk producers had possessed less than two wet animals and the milk yield per day

(Mean = 11.27) appeared to be economically viable. The milk sold per day (Mean = 10.21) was less than the actual milk yield (Mean = 11.27) indicating that the women milk producers were consuming milk in their families because of the dairy activity. Hundred per cent of the women milk producers were selling milk to the society and they had expressed difficulty in taking milk to the cooperative society which was far away from their homes. A higher percentage (80.67 per cent) of women milk producers felt that the price of milk was non-remunerative. A higher percentage of them (76.67 per cent) had complained delay in payment, 60 per cent reported corruption in measuring the milk as well as in estimating the fat content in the milk. A higher percentage (88 per cent) had expressed non-availability or poor quality of centrifuge and lactometer in the society. They suggested daily payment for milk (45.33 per cent), exact weekly or fortnightly payment (82 per cent), constant monitoring of supervisors on the functioning of the secretary (74.00 per cent), trained secretary (61.33 per cent), quality equipment (64.00 per cent), and 26.66 per cent women milk producers indicated the need of a female secretary. The Mean dairy income of the total sample (Mean = 947) indicates that the dairy enterprise is economically viable. On an average the total women milk producers were incurring an expenditure of Rs. 213.83 per month on dairy. The expenditure incurred by the Upper Middle Class was less than the other two SHS groups. Perhaps it may be due to the fact that the Upper Middle Class was getting dry grass, green grass and also a part of feed on free of cost from their own lands. The introduction of dairy programme helped raise the income of the women milk producers. The income generated on an average was Rs. 733.17 per month due to the implementation of dairy

programme. The average income rose by 59.38 per cent. Thus it is obvious that the dairy enterprise as a result of establishment of AWMPCS generated considerably good income to the benefit of the families of women milk producers. It is a significant achievement of the All Women Milk Producers' Cooperative Societies. The association between dairy income and farm power ( $\chi^2 = 24.35678$ , df = 4,  $P < 0.01$ ) was statistically significant at .01 level of probability while the association between dairy income and size of family ( $\chi^2 = 7.26339$ , df = 2,  $P < .05$ ) was significant at .05 level of probability indicating that these two variables were exerting influence on dairy income.

The **problems** encountered by the women milk producers in carrying out the dairy enterprise as reported by them were small herd size (80 per cent), delay in giving financial help (86.67 per cent), non-availability of feed in time (84 per cent), problems on sanction of loan and corruption while purchasing the milch animals (74.67 per cent), no follow up (64 per cent), low quality of milch animals (44 per cent), lack of training to the Directors and Secretaries (61.33 per cent), non-availability of doctors in time (54 per cent), inadequate financial assistance to buy milch animals (65.33 per cent), negative attitudes of husbands to sell milk to the AWMPCS due to low price (45.33 per cent) and dairy income being taken away by the husbands (61.33 per cent).

The **suggestions** made by the women milk producers to improve the dairy performance were interest free loan (80.66 per cent), increase in subsidy amount (72.67 per cent), increase in loan amount (65.33 per cent), increase in herd size (44

per cent), follow up by veterinary officials (42 per cent), trained and technical personnel (34.67 per cent), adequate training (42 per cent), elimination of corruption while purchasing animals (39.33 per cent), timely supply of fodder, feed, concentrates and seedlings (28.31 per cent) and incentives for large scale milk producers (21.33 per cent)

***Impact on family.*** The results revealed that 17.33 per cent of the families of women milk producers were living below the Poverty Line before starting the dairy enterprise. But after starting the dairy enterprise there has been a significant increase in the number of families whose annual income rose above Rs. 20,000/- (69.33 per cent), and also none of the families of women milk producers were living below the *poverty line*. The *per capita milk consumption* in the families of women milk producers was 298 gms. This quantity appears to be more than the recommendations of ICMR 210 gms of per capita requirement and also the multinational requirement of 250 gms as stated by Birdar. Perhaps it might be due to the nutritional status of the milk producers families and also commendable achievement on the part of AWMPCS and also milk producers. Milk consumption had positive and significant relationship with the milk yield (.8844), dairy income (.8255) and herd size of wet animals (.7666) at .01 level of probability, while significantly family size had no significant relationship with the milk consumption in the families of women milk producers. These results indicate that the higher the herd size the greater was the milk yield and dairy income and the resultant impact on the milk consumption in the families of women milk producers.

With regard to the *health and childrens' education* a higher percentage of women milk producers reported that the milk business had positive impact on children's education (55.33 per cent), better food (80 per cent), able to consult doctors and to purchase the required medicines (40 per cent). The Mean score of the total sample (Mean 3.04) revealed that the milk business to some extent had positive influence on children's education due to better income and also contributing towards health status of the families. The dairy enterprise helped the women milk producers to purchase land, (20.67 per cent), gold (20 per cent), T.V (18.67 per cent), Tape recorder (9.33 per cent), Radio (6.67 per cent) and cleared the old debts (13.33 per cent) indicating that the dairy income brought commendable change in the assets possessed in the families of women milk producers and in particular weaker sections. The women milk producers had expressed greater satisfaction towards dairy enterprise. On the whole, the impact of dairy enterprise on the families of women milk producers was moderate (Mean = 13.14), and the impact was in the decreasing order from the Upper Middle Class (Mean 13.76) to the Lower Middle Class (Mean 12.71) indicating that the impact of dairy enterprise was higher in the families of Upper Middle Class than in the families of Lower Middle Class and the Mean differences were statistically significant at (t value - 2.713) .01 level of probability.

***Impact on Status of Women.*** In the present study, status of women was measured in respect of their decision making power, restrictions on women's activities and their perceived status within their home. The results revealed that the women milk producers belonging to the Lower Middle Class (Mean 48.27) were

enjoying more power in *decision-making process* than the Middle Class (Mean 46.37) and the Upper Middle Class (Mean 44.94) women. Perhaps, the male dominance might be high in the Upper Middle Class and Middle Class families. The Mean differences between SES groups were statistically significant at .05 level of probability (F-ratio = 3.207) indicating that the decision making power was very much associated with the socio-economic status of the family. A higher percentage of women respondents (97.33 per cent) reported that there was a change in taking important decisions concerning their families after establishing dairy enterprise on the aspects relating to milk business (9.33 per cent), family budget (41.33 per cent), children's education i.e, admission to better schools (29.45 per cent) and increase in marriage allowance (19.1 per cent).

With regard to restrictions imposed on women's activities, the results revealed that the restrictions imposed were more in the families of Upper Middle Class (Mean 1.88) than the Lower Middle Class (Mean 3.32) and the difference in Mean score was statistically significant (t-value = 2.519) indicating that the women belonging to the Lower Middle Class had less restrictions on their activities than the Upper Middle Class women. A higher percentage of women milk producers reported that they were allowed to go out to work (54.67 per cent), to participate in public life (79.33 per cent), while they were not allowed to leave the house alone (88 per cent), talking to males (88 per cent), talking back to husband (88.67 per cent), talking to husband in the presence of others (89.33), having male friends, (88 per cent), having female friends whom husband dislikes (88.67 per cent), visiting relatives frequently

(85.35 per cent), going to fairs with friends (62.67 per cent) and using family planning methods (84.67 per cent). These results indicate the clear picture of male domination in rural societies. Coming to the perceived status within the home, the Upper Middle Class Women had perceived greater status within the home (Mean = 9.82) than the Lower Middle Class Women (Mean = 8.38) in spite of lower power in decision making and higher restrictions on women's activities. Perhaps, they were used to the subservient treatment for generations together in the male dominated societies. A higher percentage of women milk producers (83.33 per cent) had expressed satisfaction towards their position in the family after the establishment of dairy enterprise. They were *currently worrying* about opportunities to improve daily income (74 per cent), too much debt to pay back (66 per cent), too much work to do (28 per cent), too many people to be taken care of (26 per cent) and unfair treatment in the family (22 per cent), indicating the stress conditions in the families of women milk producers.

#### *E. Exposure to Modern Influences*

The exposure of women milk producers to different media was measured. A higher percentage of them (92.00 per cent) were listening to Radio, viewing T.V. (72 per cent), and 60 per cent of them had exposure to films, tours and exhibitions, and a less percentage (40 per cent) were either reading or listening to the news papers and farm magazines. A higher percentage of the women milk producers had exposure to three media (38 per cent) followed by 30.67 per cent to two media, 19.33 per cent to four media and 12 per cent to one media.

On the whole, the women milk producers belonging to the Upper Middle Class (Mean = 12.65) had better exposure to media than the Lower Middle Class (Mean = 9.29) indicating steps should be taken to improve the exposure of Lower Middle Class by providing extra inputs as community T.V., news paper reader, etc., to the benefit of all and in particular the weaker sections. The exposure of women milk producers to urban contact (Mean = 1.82) was extremely poor while their exposure to extension agencies and functionaries was considerably good. Perhaps the sincere effort of the field supervisors and other staff of Department of Animal Husbandry and Assistant Director of Extension in the field could be the factors for better exposure to extension agencies and personnel. An extension strategy could be evolved by employing women extension supervisors in particular in the area of AWMPCS. With regard to the association between exposure to the modern influences and dairy income, a higher percentage of the women milk producers who had high dairy income (34.38 per cent) had high exposure to modern influences, but it was not statistically significant ( $\chi^2 = 4.42039$ , df = 4,  $P > .05$ ). While the association between exposure to modern influences and SES ( $\chi^2 = 13.93023$ , df = 4,  $P < .01$ ), extension contact ( $\chi^2 = 11.70138$ , df = 4,  $P < .05$ ) and urban contact ( $\chi^2 = 17.39747$ , df = 2,  $P < .01$ ) was statistically significant.

#### ***F. Entrepreneurial Attributes***

The results revealed that among the entrepreneurial traits measured it was found based on the percentage score that morale (240), persuability (230), perseverance (223), quality control capacity (217), physical tolerance (213),

competence in skill (210), coordination ability (183), reasoning ability (167), goal direction thinking (163), communicability (163), coping ability (160), cooperative (160) were the moderate traits among the women milk producers and the rest of the 28 entrepreneurial traits were either low or absent among the sample women milk producers. It was noticed that there were high correlations between the dairy income and the individual entrepreneurial attributes.

#### ***G. Sources of Women Dairy Performance***

The association between dairy performance and urban-extension contact ( $\chi^2 = 10.06244$ , df = 4,  $P < .05$ ), resource - support system ( $\chi^2 = 11.55643$ , df = 4,  $P < .05$ ), herd size ( $\chi^2 = 86.92448$ , df = 4,  $P < .01$ ) and milk yield ( $\chi^2 = 62.17184$ , df = 4,  $P < .01$ ) was statistically significant. While the association between dairy performance and SES ( $\chi^2 = 6.632$ , df = 4,  $P > .05$ ), media exposure ( $\chi^2 = 6.39362$ , df = 4,  $P > .05$ ), entrepreneurial attributes ( $\chi^2 = 4.11348$ , df = 4,  $P > .05$ ), awareness ( $\chi^2 = 2.21238$ , df = 4,  $P > .05$ ), attitudes ( $\chi^2 = 2.28918$ , df = 4,  $P > .05$ ) and motivational factors ( $\chi^2 = 6.64803$ , df = 4,  $P > .05$ ) was not statistically significant.

#### ***Relationship between Dairy Performance and Other Selected Variables***

A high correlation was found between dairy performance and milk yield (.909), while low and significant correlation was found between dairy performance and SES (.221) and resource - support system (.381). Dairy performance had very low correlation with the attitudes (.052), motivational factors (.128), exposure to modern influences (.073), status of women (.153) and entrepreneurial attributes

(176), indicating that these variables are weak and have to be strengthened so as to exert influence for better dairy performance. Multiple Linear Regression Analysis was carried out to determine the combined effect of all the selected variables in explaining variance in dairy income. The  $R^2$  value of .830151 indicated that all the eight selected variables, viz., age, education, SES, exposure to modern influences, resource support system, milk yield, motivational factors, benefits from AWMPCS, put together explained about 83 per cent of variance in dairy income of the women milk producers.

Similarly about 49 per cent variance in attitudes of the members towards AWMPCS and dairy enterprise, 17 per cent of variance to the extent of entrepreneurial attributes of the women milk producers, 18 per cent of variance to the extent of impact on family and status of women of milk producers were explained

Factor Analysis for the selected variables of dairy performance revealed that SES (16.65 per cent), milk yield (15.12 per cent), impact on family and status of women (15.31 per cent), benefits from AWMPCS (12.99 per cent), resource - support system (11.29 per cent), motivational factors (10.32 per cent) and attitudes (11.84 per cent), the seven variables together account for 93.52 per cent of the variance generated by the two factors together. In other words, these selected variables were found relevant for the study carried out. The data further subjected to Stepwise Regression Analysis. The variable milk yield had explained 82.65 per cent of variance towards the dairy performance, while the variables, entrepreneurial

attributes (17.61 per cent) in the first step and resource - support system (4.64 per cent) in the second step had contributed 22.25 per cent of variance towards the impact of dairy enterprise on family and status of women.

### *Implications*

The promotion of women dairy entrepreneurship has been considered as important in rural development programmes, in particular women development. The grass root women dairy entrepreneurs are a sector of economy in which potential entrepreneurs can make the transition to milk product industry more easily and constitute a fruitful breeding ground for developing women entrepreneurship. Grass root rural women entrepreneurship should be strengthened and helped to grow in every possible way because of its positive impact on the family and status of women.

The present investigation, it is hoped will come out with the information that would assist the planners, policy makers, administrators, extension personnel and research officers of APDDCFL and other such agencies which are involved in promoting the cooperative system, women and family development. From the results of the study the following implications were drawn :

1. The status analysis of women milk producers revealed that even after implementation of dairy programme 42 per cent of the milk producers could not reach even to the level of middle class. Thus constructive efforts to strengthen some of the areas of status, namely, farm power, education, occupational mobility, landholding are essential to improve their socio-economic status for better performance and achievement.

The data on All Women Milk Producers' Cooperative Societies revealed that the herd size was very small when compared to the membership of the societies. Since herd size is highly correlated with the milk consumption in the families of women milk producers and also associated with the dairy performance, while the milk yield is significantly correlated with dairy income, it could be suggested that the Milk Producers' Cooperative Union, Federation should strengthen the resource support system to AWMPCS so as to enable them to help women milk producers to increase their herd size (milch animals) thereby increase in milk production and dairy income empowering women and families.

The women milk producers had favourable attitudes and perceived greater satisfaction towards AWMPCS and contributed 11.84 per cent of variance towards dairy performance along with the other nine selected variables. Since the association between attitudes and background variables such as caste, occupation, education, land-holding, type of family and SES was statistically significant as revealed by  $\chi^2$  value, strategies could be evolved to improve the educational status, landholding and occupational mobility of weaker sections so as to exert more influence on favourableness of their attitudes resulting in better dairy performance. Concerned efforts are needed on the part of extension personnel to educate and motivate the women who had low attitudes towards dairy enterprise and AWMPCS.

The Multiple Linear Regression Analysis revealed that the exposure to modern influences and milk yield had contributed positively and significantly to most

of the variance in dairy income of women milk producers and hence to strengthen this variable common subsidised T.V. and news paper reader should be made available either in cooperative society or in adult education centres or Mahila Mandals. Field trips should be arranged in order to make them aware of different developmental programmes and educate them about dairy enterprise.

The Multiple Linear Regression Analysis revealed that milk yield had positively and significantly contributed to most of the variance in entrepreneurial attributes of women milk producers. Thus regular follow up should be ensured by the officials of Animal Husbandry, Banks and Officials of the Union to sharpen their skills and entrepreneurial attributes by organising method demonstration and skill teaching on various dairy innovations.

In view of the problems encountered by the women milk producers in carrying out the dairy enterprise and the suggestions made by them, the APDI, CFL and State Animal Husbandry Department should take necessary steps to ensure that the technical input supply and service facilities are easily and freely available to all the members of All Women Milk Producers' Cooperative Societies.

The members should be actively involved in the process of purchasing of the animals as the supply of low quality animals and corruption were the problems expressed by the members. A system of strict supervision should be evolved to check the leakage, to prevent misappropriation of funds and for timely solution of other problems.

8. A post of Additional Veterinary Officer who acts as liaison between Union level and societies should be attached to local veterinary hospital which in turn ensure timely supply of veterinary aid and concentrate feed to each member of the society with greater attention. Women milk producers who had low dairy income should be given special attention by means of credit and other technical inputs and supplies.
9. The animal health care must be made strong, regular and uniform in all the milk societies by increasing the number of mobile and emergency veterinary units and by providing first-aid boxes on those societies where the facility was not available
10. Balanced cattle feed should be made popular in all the societies and Union and the efforts should be made for the promotion of a balanced cropping pattern which would give optimum fodder for the milch animals. Tree plantation programmes may be organised by the Dairy Cooperatives for large scale plantation of such trees which provide fodder to animals. Fodder banks should also be set up by Cooperative Milk Unions to arrange storage and distribution of fodder to women milk producers at reasonable prices during the period of scarcity
11. For the success of Dairy enterprise a system of input supply, milk collection giving better prices to milk producers for their milk than to private traders, and payment should be made strong in order to make them viable.
12. The existing pricing policy for milk procurement is not proper in the present conditions. Procurement price of milk must be made adequate to induce milk

producers to increase milk production by adopting better breeding, feeding and management practices. It must be competitive with other private agencies collecting milk in the area. The system of regular and punctual payment should be adopted.

13. The officials should be cautious in the selection and appointment of secretaries and more credibility should be given for human traits like honesty and integrity of the individuals. Training should be imparted with a broad objective to promote their professional skills and calibre. This would facilitate to undertake the responsibilities expected of them with greater confidence and competence.
14. The distribution of concentrates and mineral mixture through the societies should be made more effective. The request of the milk producers for the supply of these inputs at more subsidised prices and the feasibility of supplying fodder through the cooperative network should be considered.
15. The Milk Producer's Cooperative Union, APDDCF, and the AWMPCS should take note of the problems expressed by the women milk producers and steps should be taken to meet out the suggestions made by them such as, interest free loans, increase in subsidy and loan amount, increase in herd size, follow up by veterinary officials, trained and technical personnel and incentives for large scale production should be taken care of by coordinating the efforts with the programmes like IRDP, DPAP, DIC programmes and also by evolving suitable strategies for better dairy performance and greater participation of women in dairy entrepreneurship.

### *Suggestions for Further Research*

1. The present study was conducted at the micro level and it was confined to only one milk shed area in Andhra Pradesh. The study needs to be replicated on larger samples covering all the milk shed areas so that the inferences drawn could be generalised to a greater extent.
2. A comparative study to estimate the dairy performance of member women milk producers of All Women Milk Producers' Cooperative Societies and the male milk producers of Primary Milk Producers' Cooperative Societies may be carried out so as to identify the significant difference at the achievement levels of men and women milk producers.
3. Similar comparative study between the member milk producers of AWMPCS and non-members (women) could be carried out to estimate the difference in the levels of their achievement in Dairy Performance, and their impact on family and status of women milk producers.
4. In the present study the emergence of Women Dairy Entrepreneurship as a result of the establishment of AWMPCS, their performance, impact on family and status of women milk producers was emphasized rather than the three tier Federal structure. An in depth study of the functioning of the three tier Federal structure in the State could be carried out.

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## *APPENDICES*

## APPENDIX A

### *Salient Features of Study Area : Chittoor District and Chandragiri Mandal*

*Topography of Chittoor District.* The District is bound on the North by Anantapur and Cuddapah Districts, in the East by Nellore District and Chengalpattu District of Tamil Nadu, on the South by North Arcot District of Tamil Nadu and on the West by Tamil Nadu and Karnataka States. The District covers an extent of 11,457 Sq. Kms. It is divided into 3 Revenue Divisions viz., Chittoor, Tirupati and Madanapalle. It is situated between 12°-37" to 14°-8" of Northern Latitude and 78°-33" to 79°-55" of the Eastern Longitude.

Chittoor District was constituted on 1st April 1911, comprising the Taluks of Chittoor, Palamaner and Chandragiri transferred from North Arcot District of Tamil Nadu, Madanapalle and Vayalpad Taluks from Cuddapah District, and Ex-Zamindari areas of Punganur, Srikalahasti, Puttur and old Karvetinagar Estate by 1-12-1928, Kangundhi taluk of North Arcot District, with the exception of 22 villages were transferred to Palamaner Taluk, and in 1950 under Province and States (Absorption of Enclaves) Order 8 villages of Mysore State were transferred to Palamaner Taluk. The next major change in Jurisdiction of the District took place on 1st April 1960 as a result of Pataskar Award. Consequent on the re-organisation of the State on Linguistic basis, a major portion of Tiruttani Taluk was transferred to Chengalpattu District of Tamil Nadu. Instead of one Taluk known as Sathyavedu comprising 76 villages of Tiruvallur Taluk, 72 Villages of Ponneri Taluk both of Chengalpattu District of Tamil Nadu and 17 villages of Puttur Taluk, 19 Villages of Tiruttani Taluk

was constituted and added to Chittoor District. Also from the same date, the Sub Taluks of Kuppam and Bangarupalem were constituted transferring 220 villages from Palamaner Taluk and 3 villages from Krishnagiri Taluk of Salem District of Tamil Nadu to form Kuppam Sub-Taluk and 145 villages from Chittoor Taluk to form Bangarupalem Sub-Taluk. Subsequently Kuppam and Bangarupalem were made fullfledged Taluks. The above 11 Taluks of the District were re-organised into 15 Taluks and 20 Panchayati Samithis. Again the above 15 Taluks of the District were re-organised into 66 Revenue Mandals (G.O.Ms. No. 569 Revenue (Mandal-2) Department, dt 22-5-1985)

According to census, the district had a population of 32.61 lakhs which was 4.9 per cent of the total population of Andhra Pradesh. Chittoor District is the smallest in area in the Rayalaseema region. It is the most populous with the highest density of population of 215 persons per sq. km. This district has rural population of 26.15 lakhs with cultivators of 5.29 lakhs. Whereas Agricultural Labourers i.e., 4.90 lakhs of workers engaged in agriculture. It is more agriculture oriented than any other district in the region (Hand book of Statistics, Chittoor District : 93-94).

***Climate and Rainfall.*** The climate of the district is dry and healthy. The upland Taluks of the district are comparatively cooler than the eastern taluk except Chittoor Taluk, where the climate is moderate. The district has the benefit of receiving rainfall during both the South West and North East Monsoons. The average annual rainfall of the district is 826 mm, while normal rainfall of South West and North East Monsoons are 296 mm and 256 mm (1982-83) respectively.

**Rivers and Soils.** The rivers flowing in the district are non-perennial in nature and remain dry for a major part of the year. The major portion of the district is covered by red soil with portions of alluvial soil in Chittoor and Bangarupalem Taluks. According to the village records, 57 per cent of the soils of the district are red-loamy and 3.4 per cent red-sandy. The remaining 9 per cent is covered by black clay (3 per cent), black loamy (2 per cent), black sandy (1 per cent), and red clay (3 per cent). Of these rivers, river Ponnai which is tributary of river Palar rises in Chittoor Taluk and flowing towards the South, joins the Palar in Tamil Nadu. The Swarnamukhi, another important river which rises in the Eastern Ghats in Chandragiri Taluk has its course throughout Chandragiri Taluk and part of Sri Kalahasti Taluk and ultimately flows into Nellore District. Other such important rivers of the district are the Kushastali, the Bhima, the Bahuda, the Pincha, the Kalyani, the Arniyar and the Peddru which flow in different taluk of the district. Besides the above rivers, there are a number of small hilly streams flowing in the district (Chief Planning Officer, Chittoor 1993).

**Irrigation and Cropping Pattern.** There are 8 medium Irrigation Projects in the District. They are Swarnamukhi anicut, Araniyar, Mallimadugu, Kalangi, Bahuda Siddalagandi Project, Krishnapuram Reservoir and Pedduru Project. The total registered ayacut under the eight projects is 41,429 acres. There are 8814 minor irrigation tanks with a total ayacut of 3.2 lakhs acres. The district occupies a pride of place in the number of irrigation wells totalling to 1,29,713 in number. The important crops grown in the district are paddy, sugar cane, groundnut, ragi, bajra and jowar.

## LAND UTILISATION

The Land utilisation pattern in the district as per 1993-94 Agricultural Census is as follows

		<b>1993-94</b>
1)	Forest	1115296 Acres
2)	Barren & Uncultivable land	411979 "
3)	Land put to Non-Agricultural users	345546 "
4)	Permanent pastures & other grazing lands	98534 "
5)	Miscellaneous tree crops & groves not included in net area sown	63452 "
6)	Cultivable waste	115746 "
7)	Other fallow lands	244440 "
8)	Current fallows	91260 "
9)	Net area sown	1217284 "
-----		
	<b>TOTAL</b>	3703537
-----		

**Transport and Power.** The district is connected by rail to the principal, commercial, administrative and industrial centres of the country. Renigunta and Pakala are the important Railway Junctions. The district is well connected by roads. Total length of all types of roads, viz., cement, black top, metalled and unmetalled in the district is 8597.40 km (on 31.3.1984). The Madras-Bangalore National Highway passes through this district. There is no power generating project in the district. Out of 1404 villages and towns in the district, 1290 villages and towns (91.88 per cent) are covered under rural electrification (Chief Planning Officer, Chittoor : 1993).

**Livestock and Poultry.** The livestock population in the district as per Livestock Census provisional totals of 1983, is comprising 8.03 lakh cattle, 1.6 lakh buffaloes, 4.4 lakh sheep, 2.2 lakh goats and 38.4 lakh poultry birds (Handbook of statistics, Chittoor District : 1993-94).

*Dairy Farming.* Dairy Development has made rapid strides in the district with the establishment of Dairy Farms at Chittoor, Milk Chilling Centres (5) and Milk Collection Centres (561) at various points in the district. Average monthly procurement of 44.95 lakh ltr is commissioned at Chittoor.

*Poultry.* Another activity which is gaining momentum in the district is poultry farming which provides additional income to the small and marginal farmers and landless agricultural labourers

*Sheep Rearing.* Sheep rearing is a profitable and lucrative avocation in the Western and Eastern Taluks of the district mainly owing to the presence of vast stretches of grazing lands in the shrub jungles. As a result of intensive research conducted by the Palamaner Research and Sheep Rearing station, a new variety of cross bred sheep with a higher live weight, and better wool yield has been evolved.

### *Chandragiri Mandal*

Chandragiri Mandal lies in the eastern part of Chittoor District, having an area of 93.41 sq km. It is bound by Tirupati Rural and Kammapalli Mandals on the East, Vedurukkuppan Mandal on the South, Pakala Mandal on the West and Chinnagottigallu Mandal on the North. The total population of the Mandal is 50,150 constituting 25,741 males and 24,409 females. Total literates are 25,684 (Hand Book of Statistics, Chittoor). It is just at a distance of 11 kms from Tirupati, wherein Sri Padmavathi Mahila Visvavidyalayam is located and the present investigation is carried out.

### *Climate and Rainfall*

Chandragiri Mandal is pervaded in the Eastern Ghats. Its climate is medium. Generally temperatures range between 44.4°C in summer and 14.4°C in winter. The average annual rainfall of the Mandal is 829.2 mm. This often succumb to droughts and famines. As rainfall is not sufficient it was listed in drought prone areas. This Mandal gets rainfall both by Northeast and Southwest monsoons.

### *Agriculture*

Agriculture is the primary occupation of the people. It mainly depends on monsoons. There are no perennial rivers or projects. There are 7 tanks and 2010 wells. Under well irrigation, mainly paddy sugar-cane and groundnut are grown. Agriculture is mainly depends on ground water.

The rivers flowing in the mandal are non perennial in nature and remain dry for a major part of the year. The river Swarnamukhi which rises in the Eastern Ghats in Chandragiri Mandal has its course throughout the Mandal. Besides Swarnamukhi, there are a number of small hills streams and spring channels flowing in the Mandal.

### *Industries*

The mandal has not been developed industrially. However, the SPARTH CERAMIC LTD and STILES INDIA LTD which produce flooring tiles were established at Narasingapuram and Panapakam Villages. Stone crushing industry is located at Mungilipattu. There is one Match Industry in Chandragiri established by Govt. for SCs as Cottage Industry. At Itaepalli one spinning cottage industry was established.

### *Educational Facilities*

In Chandragiri there are two Govt. Junior Colleges for boys and girls separately. Moreover, there are 4 High Schools and 20 Primary and Upper Primary Schools.

### *Social Welfare*

For the upliftment of down-trodden, the Govt. has constructed 600 houses for them. The Govt. has established Match Industry as Cottage Industry for the livelihood of SC's at Chandragiri. Five Social Welfare Hostels were constructed for both boys and girls of Backward Caste and economically backward caste; one at Rangampet and four at Chandragiri. There are 233 boys and 109 girls.

There are three commercial banks and one agricultural development bank in Chandragiri Mandal. Two commercial banks and one agricultural development bank are in Chandragiri. There is one regional bank in Arepalli Rangampet. Moreover there are 4 Agricultural Cooperative Societies in Chandragiri Mandal.

### *Medical Facilities*

In Chandragiri there is one Govt. hospital. There are 6 beds in this hospital. It is affiliated to SVRR Govt. Hospital, Tirupati. Doctors from SVRR Govt. Hospital come to help the patients. There are four primary sub-health centres in this Mandal.

*Other*

**Srinivasa Mangapuram** In Srinivasa Mangapuram, near Chandragiri, there is a temple of Lord Kalyana Venkateswara, a famous one. It comes under the purview of Tirumala Tirupati Devasthanams. Pilgrims from different parts of the country come to worship

**Chandragiri** The Fort of Chandragiri is a historical one of worthseeing. This was constructed by the King Immadi Narasinga Yadava Raja of 10th Century. Later it went into the hands of the Vijayanagara Kings and flourished. It became famous during the reign of Saluva Kings i.e., 1466-99. After the ruination of Vijayanagara Empire, it went into the hands of the Nawab of Golconda. In this fort the worthseeing halls are Raj Mahal and Rani Mahal. The speciality is that these Mahals were constructed with rocks without using wood. These Mahals were embellished with lime. Now this Fort is under the control of Archaeology Department.

## APPENDIX B

### *Interview Schedule for Respondents (Presidents/Directors) to Measure The Working Pattern and Support Services of All Women Milk Producers' Cooperative Societies (AWMPCS)*

#### 1 Identification and location of the society

- (a) Name of the society :
- (b) Date of registration:
- (c) Date of commencement:
- (d) Location of the society :
- (e) Registration number :

#### 2 Area of operation

- (a) Total households covered by the society:
- (b) Total number of members:
- (c) Number of non-members:

#### 3 Membership pattern

Caste	Number of Members	
	General Body	Governing Body
FCs		
BCs		
SCs		
STs		
Total		
	Enrolment fee : Rs.	

4 Management and paid staff pattern of the society

Governing Body	Paid staff

Number of meetings conducted during the last two years (Probe).

Give details of each meeting (Agenda items, members present, time and outcome etc)

Herd size

Type of species	Number of species	Number of milk producers
-----------------	-------------------	--------------------------

- (a) She buffaloes
- (b) Desi cows
- (c) Cross-breed cows

Total

8 Milk Production

Name of the Society	Average Milk Procurement (ltrs/day)	Amount paid (Fortnight) in Rs.
---------------------	-------------------------------------	--------------------------------

Total

9 List of records, equipment available in each society

	Records	Equipment
10 Services rendered by the society to the members		
(1) Cattle loan to 6 women members (SC/ST/BC)		Yes/No
(2) Cattle feed 25% subsidy to all its members		Yes/No
(3) Enrichment of paddy straw with urea spray		Yes/No
(4) Fodder seed multiplication community fodder development programme		Yes/No
(5) Animal health care and Artificial Insemination		Yes/No
(6) Establishment of Artificial Insemination Centres		Yes/No
(7) Cattle insurance		Yes/No
(8) Subsidised Television set		Yes/No
(9) Stainless steel bucket / Pail (SC/ST members)		Yes/No
(10) Supply of calf feed on 50% cost of female cross-breed calves for a period of 6 months.		Yes/No
(11) Medical help and health education for women and children		Yes/No
(12) Rural libraries in women societies		Yes/No
(13) Foot and Mouth Vaccination Programme		Yes/No
(14) Extension lectures on management practices, animal disease their prevention and feeding		Yes/No
(15) Telugu Graminna Kranthi Padham		Yes/No

## APPENDIX C

### Socio-economic Status Scale (Rural)

Respondent  
Village

Total score -  
Category -  
Age -  
Date -

#### Instructions:

Please read the instructions in the manual carefully before checking on this form. Check the relevant categories by putting a 'x' in the appropriate circle on the left of a sub-item. Note that only one box is to be checked under each of the major items 1, 2, 3, 4, 5, 6 and 7. Encircle the corresponding scores given against the sub-item, check for sub-items under items 8 and 9. Encircle the corresponding scores. Enter the total score in the box on the right hand top corner. Consult the manual and enter the corresponding category in the same box.

1. Caste (Specify)	2. Occupation (Specify)
<input type="checkbox"/> Scheduled caste <input type="checkbox"/> Lower caste <input type="checkbox"/> Artisan caste <input type="checkbox"/> Agricultural caste <input type="checkbox"/> Dominant caste	<input type="checkbox"/> Labour <input type="checkbox"/> Caste occupation <input type="checkbox"/> Business <input type="checkbox"/> Independent profession <input type="checkbox"/> Cultivation <input type="checkbox"/> Service
3. Education	4. Social Participation (Specify)
<input type="checkbox"/> Illiterate <input type="checkbox"/> Can read only <input type="checkbox"/> Can read and write <input type="checkbox"/> Primary <input type="checkbox"/> Middle <input type="checkbox"/> High School <input type="checkbox"/> Graduate	<input type="checkbox"/> Member of one organisation <input type="checkbox"/> Member of more than one organisation <input type="checkbox"/> Office holder <input type="checkbox"/> Wider public leader
5. Land (Specify)	6. House
<input type="checkbox"/> No land <input type="checkbox"/> Less than 1 acre <input type="checkbox"/> 1 - 5 acres <input type="checkbox"/> 5 - 10 acres <input type="checkbox"/> 10 - 15 acres <input type="checkbox"/> 15 - 20 acres <input type="checkbox"/> More than 20 acres	<input type="checkbox"/> No home <input type="checkbox"/> Hut <input type="checkbox"/> Katcha house <input type="checkbox"/> Mixed house <input type="checkbox"/> Pucca house <input type="checkbox"/> Mansion

7	Farm Power	8	Material Possession (Specify)
(1)	No milch animal	( )	Bullock cart
(2)	1-2 milch animals	( )	Cycle
(3)	3-4 milch animals	( )	Radio
(4)	5-6 milch animals	( )	Chairs
		( )	Improved agricultural implements

9	Family Type	Size (Specify)
(1)	Single	( ) Up to 5
(2)	Joint	( ) Above 5 ( ) Distinctive features (specify)

#### 10 Family Income (1993-94)

	Sources of income before starting dairy (Rs.)	Income before starting the dairy (Rs.)	Sources of income after starting the dairy (Rs.)	Income after starting the dairy (Rs.)
(1) Below Rs 6400				
(2) Rs 6400-10,000				
(3) Rs 10,000-15,000				
(4) Rs 15,000-20,000				
(5) Rs 20,000-25,000				
(6) Above Rs 25,000				

#### 11 Financial Liabilities (1993-94)

Amount borrowed in a year (Rs.)	Name of the agency	Actual rate of interest	Amount paid back (Rs.)	Amount outstanding (Rs.)	Utilisation of the money borrowed (Rs.)

## 12. Savings (1993-94)

Amount (Rs.)	Name of the agency where it is deposited

## APPENDIX D

## INTERVIEW SCHEDULE FOR THE MEMBERS OF ALL WOMEN MILK PRODUCERS' CO-OPERATIVE SOCIETIES (AWMPCS)

## To Measure their Awareness, Attitudes, Exposure to Modern Influences, Resource Support System, Dairy Income and its impact on Family and Status of Women

#### A. Personal Data

1	Name of the member	
2	Age	
3	Religion	
4	Marital status	Married/Unmarried/Widowed/ Separated/Divorced
5	Family constellation	

Age in Years	Relationship to the respondent	Education	Occupation	Any other
0 - 3				
3 - 5				
5 - 15				
15 - 25				
25 - 45				
Above 45				

16 Who manages the day to day affairs of your society?

(a) President of the society ( )  
 (b) Paid Secretary ( )  
 (c) Plant Manager ( )  
 (d) Cooperative Inspector ( )  
 (e) Any other (specify) ( )

17 What are the cooperative principles?

(a) Open and voluntary membership Yes/No  
 (b) Democratic governance Yes/No  
 (c) Limited return on equity Yes/No  
 (d) Equitable distribution of surplus Yes/No  
 (e) Cooperation between cooperatives Yes/No  
 (f) Cooperative education Yes/No

18 Do you know the by-laws of your cooperative society? Yes/No

19 If yes, what are they?

20 Do you know the functions of your society? Yes/No

21 If yes, what are they?

22 Do you know that the AWMPCS are useful for the development of weaker sections? Yes/No

23 Do you know the society supplies inputs and services to the members? Yes/No

24 If yes, give details

25 Do you know that the members should supply milk to the society atleast for 90 days in half a year? Yes/No

26 Do you know the name and place of the bank where society accounts are opened and account numbers (specify)? Yes/No

27 If not, reasons

28 Do you know that the AWMPCS are supposed to conduct meetings once in a month? Yes/No

29 If yes, do you think that the society is holding meetings regularly? Yes/No

30 Are you participating in these meetings? Yes/No

31 Do you know that these meetings are useful? Yes/No

32 How are the elections of the society held?

(a) Direct ( )  
 (b) Indirect ( )  
 (c) Unanimous ( )  
 (d) Any other (specify) ( )

33 At which intervals are elections held?

(a) Every year ( )  
 (b) Every two years ( )  
 (c) Any other ( )

## 34. What do you know the advantages of AWMPCS?

(a)	Women's participation will increase	Yes/No
(b)	Sale price of milk will be given earlier	Yes/No
(c)	Good quality of milk will be ensured	Yes/No
(d)	Appropriate rate for milk supply is ensured	Yes/No
(e)	All milk can be sold to the society in the village itself	Yes/No
(f)	Milk production will increase	Yes/No
(g)	Cattle feed will be made available by the society	Yes/No
(h)	Payment of money will be made on time	Yes/No
(i)	Self employment opportunity for women will increase	Yes/No
(j)	Vaccination facility will be made available.	Yes/No
(k)	With setting up of society, there would be great saving of time of individual	Yes/No
(l)	Green grass will be made available by the society	Yes/No
(m)	Any other	

## C. Attitudes toward All Women Milk Producers' Cooperative Society

People have different opinions regarding AWMPCS and its functioning. The following statements reflect the opinions of others. You please indicate whether you strongly agree (SA), Agree (A), Undecided (UD), Disagree (DA) or Strongly Disagree (SDA) with each of these statements.

Statement	SA	A	UD	DA	SDA
The milk cooperatives have not made any impact on milk producers' income.					

- (c) The establishment of milk co-operatives leads to the development of rural poor and the dairy industry in villages \*
- (e) Starting of milk cooperatives may not improve the advisory services to producers in a prime
- (f) Milk cooperatives help for higher income and better amenities in milk producers' families \*
- (g) Milk cooperatives are the only alternative to fight the menace of middle men in milk distribution system \*
- (i) The milk cooperative societies are the surest means through which services and inputs are assured to the milk producers \*
- (j) The non-members of the milk cooperative society also get equally better attention in veterinary and other services and supplies to any member of the milk cooperatives
- (h) The problem of milk producers are not duly attended by the milk cooperatives
- (l) There is more corruption among the office bearers of milk cooperative societies
- (m) The objective of milk cooperative society is to provide all necessary facilities to milk producers \*
- (k) The contact between office bearers and milk producer is very little
- (l) Milk cooperative societies fetch high remunerative price for milk producers.\*

#### **Positive statements**

17. What factors do you think affect the AWMPCS?

(a)	Population in the village	Yes/No
(b)	Caste dominance	Yes/No
(c)	Practice of 'proxy'	Yes/No
(d)	Water, water and fodder problems	Yes/No
(e)	Lack of proper transport facilities	Yes/No
(f)	Lack of adequate staff and trained personnel	Yes/No
(g)	Lack of adequate infrastructure (lactometer, accommodation, equipment etc.)	Yes/No
(h)	Any other	

18. How far are you satisfied with the AWMPCS?

(Extremely Satisfied Satisfied Mixed Dissatisfied/Extremely Dissatisfied).

#### D Resource - support System

19. How did you get the idea of establishing dairy milk selling business? By which of the following factors did you get motivated?

(a)	Advice by family members, relatives and friends	Yes/No
(b)	Advice by the officials of AWMPCS/Dairy Union	Yes/No
(c)	Facility in obtaining financial help	Yes/No
(d)	To utilise the dairy skill	Yes/No
(e)	Economic need	Yes/No
(f)	Heavy demand of milk	Yes/No
(g)	Any other (specify)	

20. Before starting the society were you engaged in milk business? Yes/No

21. If yes, for how long have you been in the business?

(a)	10-15 years	( )
(b)	15-20 years	( )
(c)	20-25 years	( )

22. Is this your primary occupation? Yes/No

42 Who are the persons helping in the business?

(a) Husband	Yes/No	(Time spent in a day)
(b) Elders of the family (specify)	Yes/No	( )
(c) Children	Yes/No	( )
(d) Any other (specify)		

43 How much time do you spend on the following in a day?

(a) Dairy activity	( )
(b) Children	( )
(c) Domestic work	( )
(d) Farm work	( )
(e) Any other (specify)	

44 Details of Farm Inventory

S No	Milch animals	Herd size	
		Before Membership	After Membership
1	She buffaloes		
2	Cows		
3	Desi Cows		
4	Cross breed cows		

45 What are your main problems in feeding the animals?

(a) High cost of inputs	Yes/No
(b) Non availability of green fodder/dry fodder/concentrates	Yes/No
(c) Poor quality of green fodder/dry fodder/concentrates	Yes/No
(d) Any other (specify)	

46 Do you have separate cattle shed? Yes/No

47 Dairy equipment

(a) Water tubs	Yes/No
(b) Baskets	Yes/No
(c) Buckets	Yes/No

(d) Milking pails Yes/No  
 (e) Feeding troughs Yes/No  
 (f) Ropes Yes/No  
 (g) Earthen pots Yes/No  
 (h) Others (specify) \_\_\_\_\_

48. How much money have you so far invested on this business? \_\_\_\_\_

49. Do you have enough milk for the calf? Yes/No

50. Whom do you consult when the milch animal is sick?

(a) Veterinary Doctor ( )  
 (b) Rural Quack ( )  
 (c) Any other ( )

51. Do you have veterinary hospital in your village? Yes/No

52. Are you satisfied with the veterinary services available? Yes/No

53. If not, give details

54. How much money did you spend on health care of milch animal in a year (1993-94) ? (specify the amount)

(a) Rs 5-10 ( )  
 (b) Rs 10-20 ( )  
 (c) Rs 20-30 ( )  
 (d) Rs 30-40 ( )  
 (e) Above Rs 40 (specify) \_\_\_\_\_

55. Support Services to the members of All Women Milk Producers' Cooperative Societies

(i) Supply of balanced feed Yes/No  
 (ii) Supply of grass seeds Yes/No  
 (iii) Supply of green fodder Yes/No  
 (iv) Supply of grass seedlings Yes/No

(v)	Provision of veterinary aid	Yes/No
(vi)	Provision of Artificial Insemination	Yes/No
(vii)	Pregnancy test for animals	Yes/No
(viii)	Training programme for members of women	Yes/No
(ix)	Field trips	Yes/No
(x)	Help in getting loan from banks	Yes/No
(xi)	Cross breeding	Yes/No
(xii)	Financial benefits	Yes/No
(xiii)	Emergency veterinary aid	Yes/No

56 *E. Milk Yield and Dairy Income*

No. of Wet animals	Quantum of milk yield/day (ltrs)	Quantum of milk sold/day (ltrs)	Where she sells milk	Income/month Gross Rs.	Expenditure/month Rs.

57	Are you satisfied with the method of payment?	Yes/No
58	If not give reasons and suggestions	

### 8.1 Family Income (per annum)

Sources of income before starting the dairy enterprise	Income before starting the dairy enterprise (Rs.)	Sources of income after starting the dairy enterprise (Rs.)	Income after starting the dairy enterprise (Rs.)

### *Problems in Marketing*

60 What are the main problems encountered in marketing the milk and dairy enterprise in general?

(a) Non-remunerative price Yes/No  
(b) Non-availability of good facilities Yes/No  
(c) Transportation Yes/No  
(d) Labour Yes/No  
(e) No problems Yes/No  
(f) Any other (specify)

61 Give suggestions for development of milk marketing and dairy enterprise as a whole

62 Did you face any occasion when you could not sell all the milk? Yes/No

63 If yes, what did you do with the unsold milk?

**E. IMPACT ON FAMILY**

64 Whom do you give priority while serving milk, curds, etc.

(a) Husband	( )
(b) Daughters	( )
(c) Sons	( )
(d) Elders	( )
(e) School going children	( )
(f) Enough to each	( )
(g) Equal to all	( )

65 How was the milk utilised in the previous day?

(a) Produced	( )
(b) Consumed	( )
(c) Sold	( )

66 Are there any changes in the food habits of your family after starting milk business?

Yes/No

67 If yes, what are the changes?

- 1
- 2
- 3

68 How much milk is consumed in your family every day?

69 How often do you prepare food stuffs using milk?

Everyday/Weekly/Fortnightly/Month/Never

70 Do you have any influence of milk business on your children's education?

Yes/No

71 If yes, what type of influence?

a. Interruption of education due to work	Yes/No
b. Better education due to better income	Yes/No
c. No sufficient time to look after childrens education	Yes/No
d. Any other	

12. Do you feel carried from dairy helpful to the betterment of  
family members in your family?

Yes/No

13. Do you in what way?

- (a) For consulting doctors
- (b) In purchasing medicines
- (c) For better food
- (d) Others

Yes/No

Yes/No

Yes/No

14. Do you find any change in the assets of your family after starting the  
milk business?

Yes/No

15. If yes, type of change observed

- (a) Purchased Television
- (b) Purchased Radio
- (c) Purchased Tape recorder
- (d) Purchased gold
- (e) Purchased land

Yes/No

Yes/No

Yes/No

Yes/No

Yes/No

16. Are you satisfied with the turn out if your dairy activity as much as your  
to meet the requirements of your family?

Extremely Satisfied/Satisfied/Mixed/Dissatisfied/Extremely Dissatisfied

### CURRENT WORRIES

17. What are the things that you are currently worrying about?

- (a) Too many people to take care off ( )
- (b) Too much illness in the family ( )
- (c) Too much work to do ( )
- (d) Too many troubles in the family ( )
- (e) Few opportunities to improve daily income ( )
- (f) Too much unfair treatment ( )
- (g) Too much debt to pay back ( )
- (h) Children creating troubles too much ( )
- (i) Others (specify) .

## G. STATUS OF WOMEN MILK PRODUCERS

(i) *Power in Decision Making*

78 Does your husband consult you in taking decisions concerning the family?

(a) Always	( )
(b) Sometimes	( )
(c) Never	( )

79 Who will decide?

	Wife always	Jointly by Husband & Wife	Husband	Mother - in - Law	Father - in- Law
a. What foods to cook? b. Type of clothes to be purchased for the wife c. What household articles to be purchased d. Disciplining children e. Whether the wife should work outside the home? f. Purchase or sale of property g. Education of children h. Recreation i. Religious activities j. Which relatives to visit					

80. Has there been any change in taking important decisions concerning the family  
after establishing dairy enterprise? Yes/No

81 If yes, in what respect do you see a change?

(a)	Milk business decision	Yes/No
(b)	Family budget	Yes/No
(c)	Marriage allowances	Yes/No
(d)	Children's education	Yes/No
(e)	Any other	

82 Restrictions on Women's Activities

Statement	Allowed	Not Allowed
-----------	---------	-------------

a	Going out to work
b	Leaving house alone
c	Talking to males
d	Talking back to husband
e	Talking to husband in the presence of others
f	Having male friends
g	Having female friends whom husband dislikes
h	Participation in public life
i	Visiting relatives frequently
j	Going to fairs with friends
k	Use of family planning methods

83 Self-perceived status within the home

Statement	Always	Sometimes	Never
a Consultation by her husband in all important decisions			
b Approached for consultation and advise by her relations			
c Free enough to talk about birth control measures with her husband			
d Owner of any property or land	Yes/No		
e Having a bank account in her own name	Yes/No		
f Maintaining the household account	Yes/No		
g Keeping in her possession the cash money for day to day expenditure	Yes/No		
h Considered more intelligent by her husband	Yes/No		

84 Do you think you are most satisfied with your position in the family after the establishment of dairy enterprise? Yes/No

85 If your answer is 'no', specify the area in which you are not satisfied.

(a)	No recognition	Yes/No
(b)	No value for opinions	Yes/No
(c)	Misbehaviour of children	Yes/No

(d)	No monetary freedom	Yes/No
(e)	Wastage of money by every one	Yes/No
(f)	Any other	

86. If yes, in what way?

a	Consultation in all matters	Yes/No
b	Being respected	Yes/No
c	Monetary freedom	Yes/No
d	Any other	

## II. EXPOSURE TO MODERN INFLUENCES

How often do you use the following media for information on dairy activities.

Media	Regularly	Occasionally	Not at all
(a) Radio			
(b) Television			
(c) Farm magazines			
(d) Tours/Field trips			
(e) Exhibitions and melas			
(f) Film shows			
(g) Personal visits to meetings			
(h) Visits to towns/districts/city			

## EXTENSION CONTACT

88. How often did you meet the following officials during the last year?

Officials	Regularly	Occasionally	Not at all
a Paid Secretary			
b Milk Supervisor			
c Veterinary Officer			
d Manager of chilling centre			
e Assistant Director (Extension)			
f Others (if any)			

## APPENDIX E

### Self-perceived Entrepreneurial Traits

S No	Attributes	Rating Scale				
		High	Moderately High	Average	Moderately low	Low
	Self-confidence	( )	( )	( )	( )	( )
	Competitive spirit	( )	( )	( )	( )	( )
3	Ego-involvement	( )	( )	( )	( )	( )
4	Ego-strength	( )	( )	( )	( )	( )
5	Risk taking ability	( )	( )	( )	( )	( )
6	Decision making ability	( )	( )	( )	( )	( )
7	Independent	( )	( )	( )	( )	( )
8	Desire for unique production	( )	( )	( )	( )	( )
9	Inner directedness	( )	( )	( )	( )	( )
10	Managerial skill	( )	( )	( )	( )	( )
11	Organizational ability	( )	( )	( )	( )	( )
12	Emotional tolerance	( )	( )	( )	( )	( )
13	Intelligence	( )	( )	( )	( )	( )
14	Achievement motivation	( )	( )	( )	( )	( )
15	Visualization ability	( )	( )	( )	( )	( )
16	Goal direction thinking	( )	( )	( )	( )	( )
17	Morale	( )	( )	( )	( )	( )
18	Coping up ability	( )	( )	( )	( )	( )
19	Physical tolerance	( )	( )	( )	( )	( )
20	Competence in skill	( )	( )	( )	( )	( )
21	Persuability	( )	( )	( )	( )	( )
22	Perseverance	( )	( )	( )	( )	( )
23	Co-ordination ability	( )	( )	( )	( )	( )
24	Amicable nature	( )	( )	( )	( )	( )
25	Imaginative	( )	( )	( )	( )	( )
26	Sensitivity to problems	( )	( )	( )	( )	( )
27	Budgeting ability	( )	( )	( )	( )	( )
28	Flexible	( )	( )	( )	( )	( )
29	Enlightened belief	( )	( )	( )	( )	( )
30	Popularity	( )	( )	( )	( )	( )
31	Manipulator of situation	( )	( )	( )	( )	( )
32	Resourceful	( )	( )	( )	( )	( )
33	Inquireness	( )	( )	( )	( )	( )
34	Integration capacity	( )	( )	( )	( )	( )
35	Reality orientedness	( )	( )	( )	( )	( )
36	Cooperative	( )	( )	( )	( )	( )
37	Communicability	( )	( )	( )	( )	( )
38	Observational ability	( )	( )	( )	( )	( )
39	Reasoning ability	( )	( )	( )	( )	( )
40	Quality control capacity	( )	( )	( )	( )	( )

## APPENDIX F

Table 1

### District-wise Milk Procurement in Andhra Pradesh

S No	District	Number of Women Milk Societies	Number of Women members	Milk procurement (in crore kg)
1	Chittoor	110	8898	69.36
2	Cuddapah	17	1313	16.59
3	Godavari	7	280	13.24
4	Guntur	3	777	38.03
5	Krishna	43	3837	22.17
6	Kurnool	2	79	14.41
7	Nalgonda	28	2194	11.25
8	Nizamabad	7	584	11.26
	Prakasam	57	3550	34.27
10	Visakhapatnam	3	231	30.18

Source : Annual Report of National Dairy Development Corporation (1993)

Table 2

**Milk Procurement and Membership Pattern of AWMPCS  
in  
Chandragiri Mandal**

S.No	Name of the Villages where AWMPCS situated in Chandragiri Mandal	Number of members in AWMPCS	Average milk procurement per annum/day (in ltrs)
1	Chinnaramapuram	72	40.8
2	Ravanappagaripalli	70	84.7
3	Kandulavaripalli	91	89.6
4	Gaddakindapalli	40	90.7
5	Kongaravaripalli	67	95.6
6	Kuchivaripalli	53	114.4*
7	Bhimavaram	61	117.1*
8	Kodandaramapuram	60	130.00*
9	A.Pullaiahgaripalli	50	130.60*
10	Moravapalli	39	140.00*
11	Pandurangamvaripalli	70	150.00*
12	Naravaripalli	52	158.00*
13	Seshapuram	78	161.9*
14	B.Kongaravaripalli	87	180.00*
15	Anantagurappagaripalli	66	180.00*
16	N.Bandarlapalli	115	200.00*
17	Ithepalli	105	200.00*
18	Kottala	190	210.00*
19	Panapakam	100	210.00*
20	Mungilipattu	103	260.00*

the milk procurement >100 ltrs per annum/per day

Source: Records (1993-94), The Chittoor District Cooperative Milk Producers Union Limited, Andhra Pradesh

Table 2

## 2.0.2.2. Women Mix Producers' Cooperative Societies

Particulars		Name of the society		Name of the society							
1. <b>IDENTIFICATION &amp; LOCATION</b>		4. <b>Unnao</b>	<b>Kotala</b>	5. <b>thechai</b>	<b>Kongaravari</b>	6. <b>Anantha gurra- soagan pali</b>	<b>Seshaduram</b>	<b>Moravalli</b>	<b>Pulihangan pali</b>	<b>Kuchivari Pali</b>	
7. <b>Name of the society</b>		A) Women Mix Producers' Cooperative Society		A) Women Mix Producers' Cooperative Society							
8. <b>Date of registration</b>	28-4-87	29-4-87	8-10-87	17-12-84	29-1-87	13-7-89	8-5-84	8-4-91	12-7-89		
9. <b>Date commencement</b>	12-1-86	4-5-86	4-1-85	15-11-84	11-5-86	5-10-88	15-3-84	5-10-88	12-8-88		
10. <b>Location of the society</b>	Village, Chandraçitri Vanca	Village, Chandraçitri Mandal	Village, Chandraçitri Mandal	Village, Chandraçitri Mandal	Village, Chandraçitri Mandal	Village, Chandraçitri Vanda	Village, Chandraçitri Vanda	Village, Chandraçitri Vanda	Village, Chandraçitri Vanda	Village, Chandraçitri Vanda	
11. <b>Registration number</b>	3602 CC	3603 CC	3764 CC	2751 CC	3270 CC	4336 DD	2566 DD	Not available	4334 DD		
2. <b>AREA OF OPERATION</b>											
a. <b>Total households covered by the society</b>	200	260	150	190	150	180	120	170	195		
b. <b>Total no. of members</b>	103	190	105	76	66	48	55	75	53		
c. <b>No. of non-members</b>	8	10	2	—	—	22	—	15	20		
3. <b>MEMBERS PATTERN</b>											
Enrolment Fee	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- One share Rs. '0/- costs'	Rs. 1/- (One share Rs. 10/- costs)	Rs. 1/- (One share Rs. 10/- costs)	Rs. 1/- (One share Rs. 10/- costs)
General body	FCs BCs SCs	58 30 5	108 47 35	60 30 15	36 26 14	3 20 15	30 14 5	28 19 8	38 28 8	25 19 9	

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SCMs, Supervisor President Directors paid staff & members:	100% Supervisor President Directors paid staff & members:	100% Supervisor President Directors paid staff & members:	100% Supervisor President Directors paid staff & members:
Suitable to the members Convenience	Suitable to the members Convenience	Suitable to the members Convenience	Suitable to the members Convenience

C. A. MAHOG

S-0330258, ECUIMENT

A-A-B-E-N EACH SOCIETY	
Da' Book	Up-to-date Register
Gas' Book	Up-to-date Registers
General Ledger	Up-to-date Registers
1. Purchase Register	Up-to-date Registers
5. Dairy Register	Up-to-date Registers



23. Artificial insemination dead stock register

#### 10. SERVICES RENDERED BY THE SOCIETY-TO-2 MEMBERS

## Ques...

8. Foot and Mouth vaccination programme	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Cat's insurance	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10. Subsidised television Sets	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11. Statutory State Bureaus/SC/SC/ST members	1 SC 1 SC 27 OC	—	1 SC 7 SC 27 OC	1 SC 7 SC 27 OC	—	—	—
12. Extension lectures on management practices, animal disease their prevention and health education on women and children	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13. Medical check up and health education in women societies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14. Rural libraries in women societies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15. Telugu Grameneena Kranti Padham	Yes	Yes	Yes	—	—	—	—

Table 4

## Characteristics of All Women Milk Producers' Cooperative Societies

Characteristics	Number of Societies (N=9)	
	Establishment	Registration
<i>I. Year of Establishment</i>		
Year 1984-85	3 (33.33)	2 (22.22)
1985-86	4 (44.44)	-
1987-88	2 (22.22)	4 (44.44)
After 1988	-	3 (33.33)

*2. Area of Operation*

	N	Mean	Number of Societies (N=9)	
			< average	> average
a Households covered	1615	179.44	4(44.44)	5(55.56)
b Total no. of members	772	85.77	6(66.67)	3(33.33)
c Total no. of non-members	77	8.55	2(22.22)	4(44.44)

### 3. Membership Pattern

Mem- ber- ship pattern	General body	Mean	No. of Societies (N=9)		Gover- ning body	No. of Societies (N=9)	
			<average	>average		Mean	<average
							>average
FCS	414 (53.62)	46.00	6 (66.67)	3 (33.33)	36 (44.44)	4.00	3 (33.33)
BCS	234 (30.31)	26.00	4 (44.44)	5 (55.56)	27 (33.33)	3.00	1 (11.11)
SCS	124 (16.06)	13.77	4 (44.44)	5 (55.56)	18 (22.22)	2.00	1 (11.11)

#### 1. Paid Staff

				Trained	
		N	%	N	%
a Secretary	M	8	88.88	7	77.77
	F	1	11.11	-	-
b Tester	M	8	88.88	3	33.33
	F	1	11.11	-	-
c Helper	M	3	33.33	-	-
	F	6	66.67	-	-

*5. Number of Meetings Conducted During the last Two Years*

	Number of Societies	
	N	%
24 meetings	9	100.00
Special meetings (<5)	4	44.44
Members present	9	100.00
70 - 100		

*6. Herd Size*

Species	N	Mean	Number of societies	
			<average	>average
She buffaloes	270	30.00	4 (44.44)	5 (55.56)
Cows	250	27.77	2 (22.22)	6 (66.67)
Desi cows	247	27.44	6 (66.67)	3 (33.33)
Cross-breed cows	79	8.77	1 (11.11)	4 (44.44)
Total	846	94.00	5 (55.56)	4 (44.44)

Table - 5

## Socio-economic Characteristics of Women Milk Producers

Characteristics	Women Milk Producers	
	Frequency (N = 150)	Percentage (%)
<b>Religion</b>		
(i) Hindu	148	98.66
(ii) Muslim	2	1.33
<b>Marital Status</b>		
Married	129	86.00
Widowed/Deserted	21	14.00
<b>Age (in years)</b>		
upto 35	41	27.23
36-45	57	38.00
46-55	35	23.33
above 55	17	11.33
Mean = 39.53		
<b>Caste</b>		
Forward Castes	86	57.33
Backward Castes	49	32.66
Scheduled Caste	15	10.00
<b>Occupation</b>		
Agricultural Labourers	18	12.00
Caste Occupation	12	8.00
Cultivation	105	70.00
** Busmen/Service	15	10.00
<b>Education</b>		
Illiterate	77	51.33
Primary	58	38.67
Secondary/College	15	10.00

**Social Participation**

Member of one organisation	19	79.33
Member of more than one organisation	14	9.33
* Office holder	17	11.33

**Landholding**

No land	13	8.67
1-5 acres	72	48.00
5-10 acres	34	22.67
11-15 acres	31	20.67

Mean = 2.15

**House**

Hut	31	20.66
Kutcha house	23	15.33
Partly kutcha	50	33.33
Pucca house	26	17.33
Mansion	20	13.33

**Farm Power**

1-2 milch animals	121	80.67
3-4 milch animals	19	12.67
5-6 milch animals	10	6.67

Mean = 2.29

**Material Possession**

Bullock Cart	24	16.00
Cycle	86	57.33
Radio	115	76.66
Chairs/Tables/Almarahs	73	48.66
(improved agricultural implements)		

**Type of family**

Nuclear	77	51.33
Joint	73	48.67

**Size of Family**

Up to 5	113	75.33
above 5	27	24.67

**Annual income (in Rs.)**

Up to 10,000	25	16.67
10,000-15,000	23	15.33
Rs. 10,000-15,000	40	26.67
Rs. 15,000-20,000	22	14.67
Rs. 20,000-25,000	28	18.67
above 25,000	12	8.00

President of AWMPCS President and Secretaries of Mahila mandals  
Members of government or private agencies

Table 3

Financial Institutions, Money Lending Agencies, Rate of interest and Percentage Distribution of Women Milk Producers

Money borrowed (\$ in Rs.)	Money lending agencies and number of women milk producers			Rate of interest of women milk producers		
	No. of insti- tutions	Agric. op- er- ment Bank (KCB)	Pawn Broker	Interest free (Rela- tives)		Pawn Broker Total No. (%)
				Total	ACB 5% (2.5%)	
≤5000	45 (30.00)	-	-	5 (30.00)	-	-
5001-10000	50 (38.18)	24 (52.17)	1 (25.00)	35 (23.33)	10 (8.8)	10 (34.8)
10001-20000	43 (78.18)	12 (35.43)	1 (25.00)	58 (38.67)	13 (78.18)	8 (34.78)
20001-30000	2 (3.64)	8 (11.39)	2 (50.00)	12 (8.00)	2 (33.33)	2 (3.64)
>30000	-	-	-	-	-	-
Total	45 (30.00)	55 (36.67)	46 (2.66)	150 (-30.00)	3 (2.50)	55 (36.66)
					22 (5.33)	9 (6.00)
					5 (5.33)	2 (8.00)
					9 (6.00)	2 (8.00)
					15 (15.00)	2 (8.00)
					150 (150.00)	2 (8.00)

Table 7

## Utilisation of Loan Amount and Percentage Distribution of Women Milk Producers

Loan utilisation	Number of women milk producers	
	Frequency (N=105)	Percentage
<b>Productive</b>		
1. Petty business	12	11.43
2. Farm expenses*	40	38.10
3. Purchase of auto, rikshaw and tailoring machine	20	19.05
4. Childrens' education	30	28.57
Total	102	97.14
<b>Unproductive</b>		
5. Domestic needs	30	28.57
6. Medical needs**	15	14.29
7. Celebration of marriages	20	19.05
8. Others***	9	8.57
Total	74	70.48

\*Farm expenses Digging well, purchasing farm seeds and fertilisers, agricultural implements, purchase of land for cultivation, bullocks.

\*\*Medical need Treatment for chronic diseases, child birth

\*\*\*Others Death ceremony, expenses while seeking a job, festivals, house repair.

\*\*\*\*(Others)

Table 8

## Savings, Agency where Money Deposited and Percentage Distribution of Women Milk Producers

Savings/karum (in Rs.)	No.	In hand	Bank	Loan given on			Total
				Post office	Others	Interest to others	
26 (17.33)	26	-	-	-	-	-	26 (17.33)
< 2000	-	5 (4.00)	2 (1.33)	2 (2.67)	8 (12.00)	8 (5.33)	38 (25.33)
2000 - 4000	-	7 (4.66)	-	2 (1.33)	27 (18.00)	21 (12.00)	57 (38.00)
4000 - 6000	-	3 (2.00)	-	-	10 (6.67)	8 (5.33)	22 (12.67)
> 6000	-	-	-	-	2 (1.33)	2 (2.67)	7 (12.67)
Total	26 (17.33)	16 (10.66)	2 (1.33)	8 (5.33)	57 (38.00)	41 (27.33)	150 (102.00)

Table 9

## Educational Status of the Children of Women Milk Producers

Educational status of Children	Number of children		Total
	Boys	Girls	
Illiterates	7 (2.70)	15 (5.79)	22 (8.49)
School drop outs	32 (12.36)	42 (16.22)	74 (28.57)
Primary Education	18 (6.95)	37 (14.29)	55 (21.24)
Secondary Education	63 (24.32)	21 (8.11)	84 (32.43)
College	20 (7.72)	4 (1.54)	24 (9.27)
Total	140 (54.05)	119 (45.95)	259 (100.00)

Table 10

## Socio-economic Status and Percentage Distribution of Women Milk Producers

Category	Number of Women Milk Producers	
	Frequency	Percentage
Upper Class	-	-
Upper Middle Class	17	11.33
Middle Class	70	46.67
Lower Middle Class	44	29.33
Lower Class	19	12.67
<b>Total</b>	<b>150</b>	<b>100.00</b>

Table - 11  
Background Variables and Dairy Income

Background Variable	Dairy Income			Total (N=150)
	Low (N=29)	Moderate (N=89)	High (N=32)	
<i>Age (in yrs)</i>				
a. 1-10 yrs	7 (24.14)	26 (29.21)	8 (25.00)	41 (27.33)
b. 11-20 yrs	14 (48.28)	30 (33.71)	13 (40.63)	57 (38.00)
c. 21-30 yrs	6 (20.69)	22 (24.72)	7 (21.88)	35 (23.33)
d. 31-40 yrs	2 (6.90)	11 (12.36)	4 (12.50)	17 (11.33)
	$\chi^2 = 2.25309$	df=6	P>.05	
<i>Education</i>				
a. Illiterate	16 (55.17)	46 (51.69)	15 (46.88)	77 (51.33)
b. Primary	9 (31.03)	38 (42.70)	11 (34.38)	58 (38.67)
c. Secondary, college	4 (13.79)	5 (5.62)	6 (18.75)	15 (10.00)
	$\chi^2 = 6.21418$	df=4	P>.05	
<i>Social Participation</i>				
a. Member of one organisation	24 (82.76)	72 (80.90)	23 (71.88)	119 (79.33)
b. Member of more than one organisation	3 (10.34)	7 (7.87)	4 (12.50)	14 (9.33)

Own holder	2	10	5	17
	(6.90)	(11.24)	(15.63)	(11.33)

$$\chi^2 = 2.20872 \quad df = 4 \quad P > .05$$

### *Land Holding*

0-5.00	4	8	1	13
	(13.79)	(8.99)	(3.13)	(8.67)
5.01-10.00	14	41	17	72
	(48.28)	(46.07)	(53.13)	(48.00)
10.01-15.00	5	22	7	34
	(17.24)	(24.72)	(21.88)	(22.67)
15.01-20.00	6	18	7	31
	(20.69)	(20.22)	(21.88)	(20.67)

$$\chi^2 = 2.99232 \quad df = 6 \quad P > .05$$

### *Caste*

Upper Caste	13	50	23	86
	(44.83)	(56.18)	(71.88)	(57.33)
Backward Caste	11	31	7	49
	(37.93)	(34.83)	(21.88)	(32.67)
Scheduled Caste	5	8	2	15
	(17.24)	(8.99)	(6.25)	(10.00)

$$\chi^2 = 5.27133 \quad df = 4 \quad P > .05$$

### *Occupation*

Labour	4	11	3	18
	(13.79)	(12.36)	(9.38)	(12.00)
Caste occupation	4	7	1	12
	(13.79)	(7.87)	(3.13)	(8.00)
Cultivation	20	59	26	105
	(68.97)	(66.29)	(81.25)	(70.00)
Business/Service	1	12	2	15
	(3.45)	(13.48)	(6.25)	(10.0)

$$\chi^2 = 5.49460 \quad df = 6 \quad P > .05$$

*Farm Power*

a 1-2 milch animals	26 (89.66)	78 (87.64)	17 (53.13)	121 (80.67)
b 3-4 milch animals		6 (6.74)	12 (37.50)	19 (12.67)
c 5-6 milch animals	2 (6.90)	5 (5.62)	3 (9.38)	10 (6.67)

$$\chi^2 = 24.35678 \quad df-4 \quad P < .01$$

*Type of Family*

a Nuclear	14 (48.28)	49 (55.06)	14 (43.75)	77 (51.33)
b Joint	15 (51.72)	40 (44.94)	18 (56.25)	73 (48.67)

$$\chi^2 = 1.33888 \quad df-2 \quad P > .05$$

*Size of Family*

a Up to 5	19 (65.52)	74 (83.15)	20 (62.50)	113 (75.33)
b above 5	10 (34.48)	15 (16.85)	12 (37.50)	37 (24.67)

$$\chi^2 = 7.26339 \quad df-2 \quad P < .05$$

Table 12

**Crossing Poverty Line and  
Percentage Distribution of Women Milk Producers after Starting Dairy Enterprise**

Annual Income (in Rs.)	Number of respondents' families	
	Before starting the Dairy enterprise	After starting Dairy Enterprise
Below 6,400	26 (17.33)	
6,400 - 10,000	23 (15.33)	7 (4.67)
10,000-15,000	40 (26.67)	17 (11.33)
15,000-20,000	22 (14.67)	22 (14.67)
Above 20,000	39 (26.00)	104 (69.33)
Total	150 (100.00)	150 (100.00)

Table 13

Per capita Milk Consumption in the Families of Women MilkProducers :  
Mean and SDs for the SES Groups and to the Total sample

SES Groups	N		Milk Consumption (in ltrs)	Size of Family	Per capita Milk Consumption (in g)
Upper Middle Class	17	M	1.53	4.06	376
		SD	0.34	1.84	
Middle Class	70	M	1.39	4.14	335
		SD	0.21	0.26	
Lower Middle Class	63	M	1.30	4.36	298
		SD	0.31	1.96	
Total		M	1.40	4.19	334
		SD	0.43	2.11	

Table - 14

Multiple Linear Regression Analysis of Awareness of Women Milk Producers' towards AWMPCS with Other Selected Variables (N = 150)

S No	Variables	Partial regression co-efficient value 'b'	Computed 't' values
1	Age	-0.0197	-0.9897
2	Education	-0.2658	-1.7467
3	SES	0.0627	1.6491
4	Exposure to Modern influences	-0.0863	2.7789**
5	Resource - support system	0.0268	0.3117
6	Milk Yield	-0.0073	-0.1640
7	Motivational factors	0.2583	1.1510
8	Benefits derived from AWMPCS	0.0823	0.6104

( $R^2$  : 0.09136076) (F' value : 1.772137)NS

Table 15  
Stepwise Regression Analysis (N=150)

Explanatory Variables entered stepwise	R <sup>2</sup>	Increase in R <sup>2</sup>	F-value
<i>Impact on Family and Status of Women</i>			
(1) Entrepreneurial Attributes	.1761288	.1761288	31.6387 **
(2) Resource-support system	.2128899	.0367611	19.87956**
<i>Dairy Performance</i>			
(1) Milk Yield	.8264595	.8264595	704.8267**
** P < .01			

## APPENDIX - G

### CONCEPTS AND DEFINITIONS

#### *Achievement Motivation*

A desire or tendency to do things as rapidly and/or as well as possible. The desire as to accomplish something difficult to master, manipulate or organise physical objects, human beings or ideas, to overcome obstacles and attain a high standard, excel one's self, rival and surpass others

#### *Co-operative*

Working together to produce a common result, Co-operation and competition often exist together among the entrepreneurs. They become more cooperative and more productive if they are encouraged to discuss the goal of their economic activities

#### *Cooperative Society*

A Cooperative is a grouping of persons pursuing common economic, social and educational aims by means of a business enterprise.

#### *Basic values of Co-operation*

- Member participation
- Democracy
- Honest, trust and openness (for adult & inspection)
- Caring for others (sensitivity) we will fight poverty exploration, deprivation.

### *Co-ordination*

It is referred in terms of entrepreneur's ability to choose and coordinate previous schemes and agencies that are related to the requirements of a new situation.

### *Coping ability*

Any conscious or unconscious adaptation that lowers tensions in a stressful experience or situation.

### *Competitive spirit*

A type of motivation that influences an individual to advance himself. Entrepreneurs may not attempt to compete with others in their lines of business or products while they are certainly competitive in their orientations. They collaborate well with other parties, when they see such collaboration to their advantage. They avoid playing winless games but play win-win games. Their competition is against the goals set by themselves rather than with the goals set by others.

### *Decision Making Ability*

Decision making involves the weighing of alternatives in terms of their desirabilities and their likelihoods. Issues concerning the avoidance and acceptance of risks in arriving at decisions hence, are likely to be important ingredients in thinking process.

### ***EGO-Involvement***

The relative degree of involvement, commitment or concern manifested by an individual with respect to any problem or goal. The extent to which individual cares about and identifies with a given task, event or situation.

### ***EGO-Strength***

The ability of conscious self to maintain an effective balance between inner impulses and outer reality. In Freudian terms ego-strength is the capacity of the ego to mediate effectively between the individual, the super ego and the demands of life. An individual with strong ego can tolerate frustration and stress, postpone gratification, modify self desires when necessary and resolve internal conflicts and emotional problems before they lead to neurosis.

### ***Emotional Tolerance***

An awareness of reactions of oneself or others, an entrepreneur's awareness of the emotional forces and achieving emotional maturity, overcoming the internal conflicts. This trait, emotional tolerance is a pre-requisite for entrepreneurial development.

### ***Enterprise***

It is any undertaking, especially one that needs courage, or that offers difficulty. Any business venture requiring risk is enterprise.

### *Entrepreneur*

Any person actively engaged in inventing or developing or expanding or effectively maintaining an organisation is an entrepreneur. According to him, if a person is starting a new organisation, developing it or expanding it, the very act of undertaking these activities qualify him to be called entrepreneur. According to Leeds and Stainton (1978) entrepreneur is the person who initiates production, takes decision, bears risks and involves in organising and co-ordinating the other factors.

### *Entrepreneurship*

Entrepreneurship as a creative and an innovative response to the environment. Such responses can take place in any field of social endeavour business, industry, agriculture, education, social work and the like. Doing new things or doing things that are already being done in a new way is a simple definition of entrepreneurship.

### *Flexible*

The leadership style where the entrepreneur presents himself as very protective of his employees, sets personal example by hard work, takes care of their needs, gives them directions. Such type of close, guided but supportive supervision proves beneficial for entrepreneurial development.

### *Independence*

Experience with entrepreneurs indicates that their need for independence and their sense of determination are the two chief characteristics that drive them to start their own business and prefer not to be controlled by others.

*Information Seeking*

The entrepreneur searches or discovers new economic information and translates the same into new markets, techniques and goods

*Inner Directed*

An individual who is self-motivated and not easily influenced by the opinions, values or pressures of other people

The degree to which an individual adopts new ideas relatively earlier than others in his social system

*Integration Capacity*

Integration is the developmental process in which experiences, abilities, values and personality characteristics are gradually brought together to maintain their functional integrity or successive functioning of several moralities in entrepreneurship.

*Intelligence*

General mental ability, especially the ability to make flexible use of memory, reasoning, judgement and information in learning and dealing with new situations and problems.

*Inquisitiveness*

Capacity to review and question the outcome of the business activity.

### *Masculine Behaviour*

It is a term applied by Addles to urge to rebel against the characteristics associated with the femininity such as submissiveness and inferior status and adopt characteristics associated with masculinity, such as assertiveness and competitiveness.

### *Morale*

The belief individual applies in discriminating between right and wrong. The attitudes that comprise a persons' moral orientation whether or not they govern behaviour in each situation

### *Perseverance*

A tendency or predisposition enquired in a previous situation which is transferred to another situation, where it may facilitate or interfere with the task at

### *Problem solving*

A tendency to approach the problems in order to solve them.

### *Results-Orientedness*

The entrepreneur is a perseverant and hard-working and he always wants success and is determined to win.

### *Reasoning*

A type of thinking that depends up on logical process of an inductive or deductive character

### *Risk orientation*

Risk is a chance of loss. On the other hand, the term means variability in possible outcome. Risk and uncertainty arise because production is not an instantaneous process. Time elapses between when entrepreneur decides to go into a line of production and when the product finally reaches the market. The entrepreneur has to assess costs and prices and physical performances before he embarks on his enterprise, and these may change with time.

### *Self-confidence*

Self-confidence refers to the belief in ones own abilities. Self-assurance and self-reliance are synonyms of self-confidence. It is a consistence behaviour pattern which reveals that one has faith in ones own abilities. Self confidence indicates the content of feeling of ones own ability and resourcefulness in carrying out activity which an individual desires to undertake.

### *Sensitivity*

The capacity to be receptive to stimuli also, emotional and aesthetic awareness, and responsiveness to the feelings of others.

### *Visualisation*

The ability to create visual image in ones mind.

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